

**ALCOHOL CONSUMPTION PATTERNS AND EMPLOYMENT
STATUS DURING A PERIOD OF ECONOMIC UNCERTAINTY**

CENTRE FOR NEWFOUNDLAND STUDIES

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**Alcohol Consumption Patterns And Employment Status During A Period Of
Economic Uncertainty**

by

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ABSTRACT

Alcohol overuse has been implicated in individual / family dysfunction and high health care costs. Controversy exists regarding whether unemployment poses a risk indicator for increasing alcohol consumption. An economic framework postulates that drinking will decrease upon unemployment due to economic constraint. A psychosocial framework indicates that drinking will increase upon unemployment as a result of increased stress.

This descriptive design utilized a secondary analysis of data from the health section of a large interdisciplinary study. The purpose of the present study was to investigate whether there were differences in drinking patterns by employment status in a random sample (N=564) of participants residing in the Bonavista Headland and the Isthmus of the Avalon Peninsula upon the closure of the Atlantic cod fishery. Theoretical triangulation was used to investigate which framework (economic or psychosocial), if any, best explained alcohol consumption. One strength of this study was that it measured economic strain, psychological stress, and the use of alcohol to cope with stress as potential key moderating factors for alcohol consumption. Previous research has suggested that these are important moderating factors. Alcohol use was measured using standardized criteria and data were analyzed to identify both differences in general alcohol patterns as well as in the presence of “at-risk” drinking.

The study found no significant difference in alcohol consumption by employment status; whether among the total sample or the subsample of drinkers only. However, findings suggested that the unemployed tended to drink more frequently and in higher

quantities than their employed counterparts. There were very few “at-risk” drinkers in either employment grouping. Although there may be no association between alcohol consumption and employment status, differences may have been masked by a culture of low alcohol consumption, high stress levels by both the unemployed and the employed, or a lack of reliance on alcohol to cope with stress. Implications for nursing practice, education, and research are presented.

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CHAPTER 1

INTRODUCTION

The collapse of the northern cod stocks and resultant cod moratorium in July, 1992 created a great deal of stress in the lives of people living in coastal communities in Newfoundland (Ommer, 1998). The moratorium imposed on the affected fishers led to the largest job loss in Canadian history (Story & Smith, 1995). Approximately 10,000 fishers and 12,400 plant workers in some 400 communities across Newfoundland and Labrador were directly affected. The impact of the moratorium was also felt by those who were not directly employed in the fishery. For example, almost one quarter of people employed in the goods-producing sector relied on the fishery for employment (Fisheries & Oceans, 1993). Ever since the major economic depression of the 1930s, a central theoretical and practical question has been: "What is the impact of unemployment on health"? A review of the literature into the association between unemployment and health suggests that both physical and mental health are negatively affected by unemployment (Banks, 1995; Jin, Shah, & Svoboda, 1995; Lynge & Andersen, 1997; Morrell, Taylor, & Kerr, 1998; Warr, Jackson, & Banks, 1988; Wilson & Walker, 1993). The mechanisms by which the negative effects occur are less well understood, but they are usually attributed to factors such as increased stress or engaging in health risk factors. One of those risk factors is thought to be increased alcohol consumption. The moratorium thus provided a natural environment in which to examine alcohol consumption patterns during unemployment.

Statement of the Problem

Increased alcohol consumption as a maladaptive behavioural response to stress can occur after the onset of unemployment, and lead to or accentuate existing alcohol problems (Wilson & Walker, 1993). Changes in alcohol consumption patterns have been documented to occur in the context of unemployment. However, there is debate as to whether alcohol consumption increases, decreases, or remains unchanged with the onset of unemployment (Janlert & Hammarstrom, 1992; Lahelma, Kangas, & Manderbacka, 1995). Generally, studies which investigate the relationship between unemployment and alcohol consumption describe changes in patterns according to one of two models; an economic or a psychosocial model (Ettner, 1997; Power & Estough, 1990; Winton, Heather, & Robinson, 1986). Both of these theoretical frameworks presume direction of causation where unemployment influences consumption patterns. The economic model purports that alcohol consumption will decrease due to a decrease in income (Lester, 1996), while the psychosocial model predicts that consumption will increase as a result of increased stress associated with unemployment (Power & Estough). However, both models are not mutually exclusive and some investigators have combined both frameworks in their research (Groeneveld, Shain, & Simon, 1990; Pierce, Frone, & Russell, 1994).

Various cross-sectional and longitudinal studies have investigated the associations between unemployment and alcohol consumption, but support for one or the other of the economic or psychosocial model is inconclusive. There have been studies which have demonstrated a positive association between unemployment and alcohol

consumption (Catalano, Dooley, Wilson, & Hough, 1993; Fleming, Manwell, Barry, & Johnson, 1998; Gomberg, Siefert, & de la Rosa, 1999; Janlert & Hammarstrom, 1992; Layne & Whitehead, 1985; Power & Estaugh, 1990; Rowlands & Huws, 1995).

Brenner's (1975) ecological studies found a negative association between unemployment and alcohol consumption. Other studies have found either no association between unemployment and alcohol consumption (Hajema & Knibbe, 1998; Hammer, 1992; Iversen & Klausen, 1986; Lahelma, Kangas, & Manderbacka, 1995; Morris, Cook, & Shaper, 1992), or a variation in results (Crawford, Plant, Kreitman, & Latham, 1987; Dooley & Prause, 1998; Ettner, 1997; Groeneveld, Shain, & Simon, 1990; Lee, Crombie, Smith, & Tunstall-Pedoe, 1990; Luoto, Poikolainen, & Uutela, 1998). The present study, therefore, will contribute to the growing body of evidence on unemployment and alcohol consumption.

There is no consensus in the theoretical and research literature on the association between unemployment and alcohol consumption. One of the limitations of previous research has been that research has often not made a distinction between drinking and "at-risk" drinking. Since moderate alcohol use can have a beneficial impact on ischemic heart disease and stroke (Single, Robson, Xie, & Rehm, 1996), the identification of individuals who are at risk for developing alcohol-related problems may be of greater clinical significance than whether one chooses to drink, or drinks in small quantities. This study includes "at risk drinking" in the description of alcohol consumption patterns for two additional reasons. First, the financial impact of alcohol consumption will be greater among those who drink more heavily. Secondly, previous studies have indicated

that unemployment may have the most effect upon at-risk drinking behaviour (Catalano et al., 1993; Fleming et al., 1998; Gomberg et al., 1999; Janlert & Hammarstrom, 1992; Layne & Whitehead, 1985; Peirce, Frone, & Russell, 1994; Power & Estaugh, 1990; Rowlands & Huws, 1995). This study will therefore provide a description of drinking practices to identify what happens with a health risk behaviour, like alcohol consumption, in the context of massive unemployment occurring within the context of an economic downturn, such as the fishery crisis. The study findings have relevance for how nurses and other health care workers may need to respond in such a situation.

Significance of the Problem

Unemployment can institute financial and psychological strains which require individual and family adjustments (Banks, 1995; Dirksen, 1994; Jahoda, 1981; Joelson & Wahlquist, 1987; Morrell, Taylor, & Kerr, 1998; Warr, Jackson, & Banks, 1988; Wilson & Walker, 1993; Winefield, Tiggemann, & Winefield, 1991). This strain may lead to increased alcohol consumption. Overuse of alcohol can exact health related and economic tolls. It is estimated that 6,503 Canadians lost their lives in 1995 and 80,946 people were hospitalized in 1995-96 as a result of alcohol consumption (Canadian Centre on Substance Abuse, 1999). Deaths were associated with motor vehicle accidents, alcohol liver cirrhosis, and suicide. Hospitalizations were associated with accidental falls, alcohol dependence syndrome, and motor vehicle accidents. Cookfair (1996) noted that alcohol use has been implicated in approximately half of all traffic fatalities, and has been associated with both burn injuries and drownings in the United States. She also

noted that alcohol abuse affects family as well as individual functioning.

In 1992 an estimated 186,257 Canadian years of life were lost – representing 27.8 potential years of life lost for each alcohol related death (Single et al., 1996) .

Hospitalizations related to alcohol-related morbidity represented \$1.3 billion in direct health care costs for 1992. The total Canadian estimated economic costs of alcohol ranged from \$6.3 - \$8.6 billion. The largest costs included \$4.1 billion for lost productivity and \$1.36 billion for law enforcement. Increased or heavy alcohol consumption is an important health and social problem. There are a number of implications for nurses working in communities where heavy alcohol consumption is a problem.

Background

Although the present study can only be generalized to the geographic location of the study, a description of employment status and alcohol patterns of Newfoundlanders is useful to help contextualize drinking patterns. Newfoundland's unemployment rate of 18.8% is the highest in the country (Statistics Canada, 1999). When Newfoundland's drinking patterns are compared with other provinces that have lower unemployment rates, some findings support an economic framework whereas others support a psychosocial framework for alcohol consumption. Several national statistics lend support to an economic model of alcohol consumption where the financial restraint associated with unemployment leads to a decrease in drinking. Canada's 1990 Health Promotion Survey tied Newfoundland with New Brunswick as having both the second

lowest number of drinkers (72%) and the lowest alcohol consumption rates (at 3.8 drinks for the week prior to the study) in the country (Health & Welfare Canada, 1990).

Drinking was more common among employed people, males, those with higher income and with higher education. Newfoundland also has the lowest mortality rate for alcohol-related disorders, the lowest rate of potential years of life lost, and the lowest per capita costs of alcohol in Canada (Single et al., 1996). Unlike most national surveys, the 1994-95 National Population Health Survey (Statistics Canada, 1997) divided people who have consumed alcohol over the past year into *current* drinkers and *occasional* drinkers. A *current* drinker was a person who consumed at least one drink a month for the previous 12 months. An *occasional drinker* ingested less than one drink monthly. This report noted that the Atlantic Provinces had the lowest percent of *current drinkers* and the highest percentage of *occasional drinkers* in Canada. Newfoundland had the largest percentage of people who have never drank (18%) in Canada. Newfoundland also has fewer regular drinkers and more occasional drinkers compared to national averages (Centre for Health Information, March 2000).

However, there is also evidence to support a psychosocial framework of alcohol consumption where the stress associated with unemployment leads to an increase in drinking. Canada's 1990 Health Promotion Survey found that as reported stress level increased, the prevalence of drinking increased (Health & Welfare Canada, 1990).

Single, Brewster, MacNeil, Hatcher, and Trainor's (1995a) analysis of the national 1993 General Social Survey found that unemployed people, while not more likely to drink than their employed counterparts, were more likely to drink heavily when they did drink.

Newfoundland is above the national average for regular heavy drinking (23% vs. 14%) and has the highest percentage of heavy drinkers in Canada (Federal, Provincial and Territorial Advisory Committee on Population Health, 1996). Heavy drinking was defined as having more than five drinks per occasion, twelve or more times in the previous year. Perhaps the minority of drinkers who tend to drink to cope with stress drink more heavily upon unemployment.

Single et al. (1995a) concluded that gender was the strongest predictor of volume of alcohol consumption in Canada, followed by religious attendance, age, marital status, and employment status. They noted that the person most likely to drink and drink heavily was an unattached young adult male without financial difficulties, and who rarely or never attended religious services. People looking for work were most likely (16.9%) to report a drinking problem (Single et al., 1995b). Problems most frequently centered around financial and physical health concerns. Residents of the Atlantic provinces were most likely to report a drinking problem.

Rationale for Study

Community health nurses work with families to promote both individual and family health. An understanding of the drinking practices in selected Newfoundland communities is important for planning culturally significant health care in these areas. Although Newfoundland has experienced both chronically high unemployment and an acute onset of massive job losses, there have been no published studies investigating how unemployment influences the drinking patterns of Newfoundlanders.

Findings from this study could be utilized in primary prevention. It could target health education to prevent injury, early deaths, and family dysfunction associated with alcohol abuse. It could also suggest which factors may moderate the relationship between unemployment and increased alcohol consumption. Nurses could facilitate the continued use of, or the development of these moderating factors to prevent alcohol abuse upon unemployment. Results could be useful for secondary prevention by identifying factors for case finding individuals who may abuse alcohol. This could lead to early referral for treatment programs. Tertiary prevention may include recommendations for treatment and coordination of stress management and alcohol abuse services.

Information regarding the effect of employment status on individual health-risk practices can also contribute to a population health framework (*Strategies for population health: Investing in the health of Canadians*, 1994). According to this framework, the economic environment (employment status) as a broad collective factor may influence individual coping skills (stress levels) and personal health practices (alcohol consumption). This study may demonstrate the influence that unemployment has upon the alcohol consumption of the population studied.

Most studies investigating unemployment and alcohol consumption do not measure degree of economic restraint and / or stress level. Without measuring these variables, an economic model may not take into account the degree of economic deprivation upon unemployment (Peirce, Frone, & Russell, 1994). For example, the presence of financial support from family members or unemployment insurance may

diminish financial strain upon unemployment. Similarly, without measuring stress levels, a psychosocial perspective may not consider how the stress associated with “unhealthy” working conditions or dual responsibilities can counterbalance the effects of stress on the unemployed population (Ettner, 1997). Stress levels can also be high among the employed who fear future unemployment (Svensson, 1987).

The treatment of abstainers in analyses can also influence findings. Cahalan, Cisin, and Crossley (1969), in a national American study, found that the leading reason for alcohol abstention was on religious or moral grounds. Single et al. (1995a) found that lack of church attendance was second only to gender as the strongest predictor of alcohol consumption in Canada. Since personal preference or religious beliefs may be the underlying motive for abstention, regardless of employment status, the inclusion of abstainers may make results erroneous. This may be most significant in those studies where abstainers are not identified by employment grouping (Janlert & Hammarstrom, 1992; Rowlands & Huws, 1995; Lahelma et al., 1995; Ettner, 1997; Lee et al., 1990). Some studies include abstainers in the analysis (Lahelma et al.; Ettner), analyze them as a separate group (Morris, Cook & Shaper, 1992), or exclude them from analysis (Hajema & Knibbe, 1998; Lee et al.).

Purpose and Research Questions

The purpose of this study is to compare the drinking patterns of a sample of unemployed and employed individuals in Newfoundland according to suggested moderating and demographic factors for alcohol use. An overall question is which (if

any) theoretical framework (economic or psychosocial) is supported by findings from this study. Specific questions to be addressed include:

1. Are there differences in alcohol consumption patterns by employment status?
2. What influences may potential moderating factors (stress level, financial strain, and self-report of increased drinking when under stress) have on alcohol consumption patterns by employment status?
3. What is the potential impact of demographic factors (gender, age, and marital status) on any differences in alcohol consumption by employment status?
4. Do the findings change when the sample is limited to drinkers only?
5. Are there differences in the percentages of “at-risk” drinkers by employment status?

Conceptual Framework

Based on the literature review, the conceptual framework for this study is the result of theoretical triangulation addressing the relationship between employment status and alcohol use. Theoretical triangulation uses competing explanatory theories to determine which theory provides the better explanatory model for the phenomenon (Kimchi, Polivka, & Stevenson, 1991). Such an approach is useful for explaining complex constructs such as health behaviour, and improves the validity of a study since the same body of data is tested against more than one theory (Dootson, 1995; Kimchi et al.; Mitchell, 1986).

This study uses an economic and a psychosocial framework in the theoretical triangulation. The conceptual framework for this study (see Figure 1) is an adaptation of

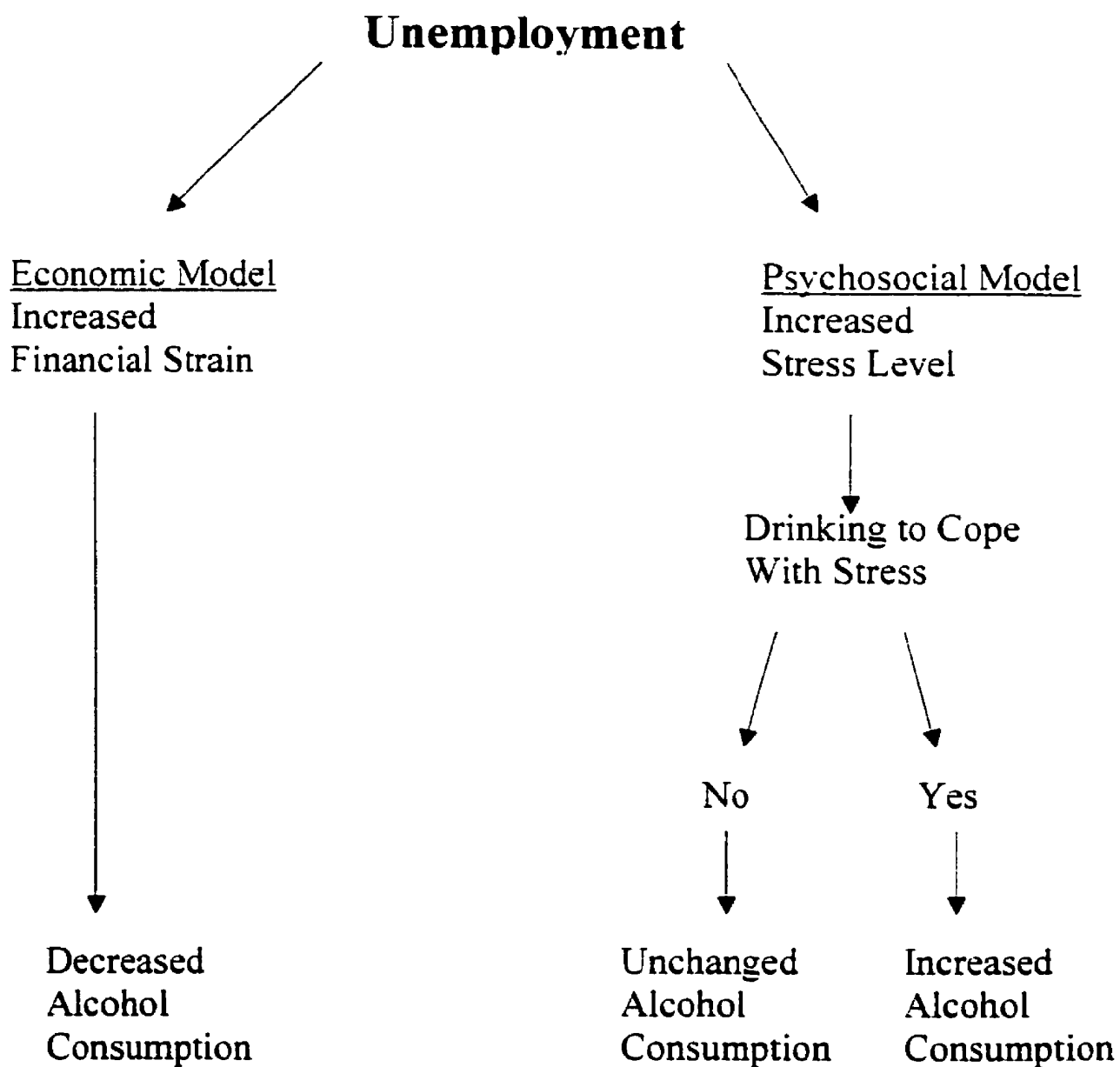


Figure 1. Conceptual framework explaining possible alcohol consumption changes during unemployment.

Note: Although not shown; age, gender, and marital status are demographic variables which may influence both financial strain and the stress level associated with unemployment.

substance use and Peirce et al.'s (1994) model predicting alcohol use and alcohol problems from financial strain.

Since the closure of the cod fishery, the individuals in affected communities have suffered from reduced income (Gien & Solberg, 1995). The unemployed in these areas were significantly more likely to note increased family tension, strengthened family relationships, and a decrease in income compared to their employed counterparts (Gien, 2000). Massive job loss associated with the closure of the cod fishery has the potential to increase or decrease alcohol consumption. A review of the literature on employment status and alcohol consumption supports the relationships depicted in the model (Figure 1) and are described more fully in the literature review. Additionally, the framework for population health (*Strategies for population health: Investing in the health of Canadians*, 1994) indicates that the social / economic environment is one of several broad collective factors which can influence personal health practices (e.g. drinking).

The conceptual framework in Figure 1 postulates that unemployment can lead to either an increase, decrease, or no change in alcohol consumption. Financial strain resulting from unemployment may lead to a decrease in alcohol consumption patterns (economic framework). In this framework, the degree of financial strain is a possible moderator between unemployment and decreased alcohol consumption. Alternatively, the heightened stress level associated with unemployment may lead to increased alcohol use (psychosocial framework). However, those most likely to increase alcohol

consumption because of the stress of unemployment may be those who tend to use alcohol as a method for coping with stress. Therefore, both stress level and coping method are possible moderating factors between unemployment and increased alcohol consumption. Those who do not drink to cope with stress may be unlikely to change alcohol consumption patterns when they experience the stress of unemployment. Finally, although not shown in the model; age, gender, and marital status are demographic variables which may have an impact on both financial strain and the stress level associated with unemployment.

Definitions of Terms

Definitions related to alcohol consumption patterns vary in the literature and a variety of measures are employed to study these patterns. Additionally, different countries use various standard measurements. For purposes of this study, the following definitions are used:

Alcohol Consumption Pattern: A description of personal alcohol consumption in terms of (a) whether participant was a drinker or non-drinker, (b) average frequency of alcohol consumption (how often consumed alcohol in previous year), (c) overall number of drinks per week, and (d) participant's "at risk" status (National Institute on Alcohol Abuse & Alcoholism, 1995).

Drinker: Participant who consumed at least one alcoholic beverage in the past year.

Non-Drinker: Participant who did not consume an alcoholic beverage in the past

year; whether as a lifelong abstainer or having quit drinking.

Drink: One standard bottle of beer or glass of draft beer; one glass of wine or sherry; or one shot or mixed drink with hard liquor (Health & Welfare Canada, 1990).

Low alcohol consumption: Self-report of 1-7 drinks in the week prior to the study (Health & Welfare Canada, 1990).

Moderate Alcohol Consumption: Self-report of 8-21 drinks in the week prior to the study (Health & Welfare Canada, 1990).

Heavy Alcohol Consumption: Self-report of more than 21 drinks in the week prior to the study (Health & Welfare Canada, 1990).

At-Risk Drinking: Consuming more than seven standard drinks a week for females and consuming more than fourteen drinks a week for males (National Institute on Alcohol Abuse & Alcoholism, 1995).

Use of alcohol as a coping mechanism: Self-report of drinking more when under stress.

Employed: Participants who are active in the labor force (whether full-time or part-time).

Unemployed: Participants who are not presently active in the work force and classified themselves as looking for a job.

Duration of Unemployment: The total number of weeks without a job and looking for work.

Keeping-house: Participants who stay at home full time (e.g., caring for children), who do not receive a salary, and who do not classify themselves as looking for

work.

Retired: Participants who are voluntarily no longer active in the work force (excluding students).

Partnered: Either married and living with spouse, common-law relationship / live-in partner.

Single: Either never married, widowed, separated, or divorced.

Stress Level: as measured by: (a) a likert scale where participants subjectively rate their present stress level (see Appendix A), (b) a dimensional measure of psychological disturbance obtained from the General Health Questionnaire (GHQ)-28, (c) dichotomized value of upper / lower stress level obtained from the overall GHQ-28 score (Goldberg & Williams, 1991).

Financial Strain: Measured as the total number of cutbacks in spending experienced over the past three years. Ten possible cutback areas were provided which ranged from cutbacks in vacations to cutbacks in household expenses (see Appendix A).

CHAPTER 2

LITERATURE REVIEW

A review of the theoretical and research literature on unemployment and alcohol consumption patterns, particularly that on what relationship if any exist between the two, suggests that more work is required to understand this complex issue. The purpose in this chapter is two fold: first, to review the theoretical literature on possible explanations of what happens to alcohol consumption in the context of unemployment. The second purpose is to explore and critique the research on alcohol consumption and employment status as a more complete background to the present research. Studies which have either specifically investigated the association between employment status and alcohol consumption or included a descriptive relationship between these variables within the context of other study goals were included in the literature review.

Theoretical Literature

An economic framework suggests that financial restraint associated with unemployment leads to a decrease in alcohol consumption (Lester, 1996). Studies indicating a negative association between unemployment and alcohol consumption support an economic framework. However, an economic framework may not account for people who, despite economic restraint, use alcohol to cope with the stress of unemployment. Additionally, an economic framework may not consider how financial support can lessen the economic restraint associated with unemployment. For example, a

person with a spousal income, life savings, and employment insurance may not perceive “enough” economic restraint to cut back on drinking when unemployed.

A psychosocial framework indicates that the stress of unemployment leads to increased alcohol consumption (Power & Estaugh, 1990). Studies indicating a positive association between unemployment and alcohol consumption support this framework . However, a psychosocial framework may not account for those people who, because of social support or a personal “hardiness”, do not perceive “enough” stress to increase drinking. A psychosocial framework may not account for those people who, although greatly stressed, do not use alcohol to cope with stress. For example, a person may use supportive relationships, meditation, and exercise (rather than alcohol) to deal with the stress of unemployment. Even when greatly stressed, a person who dislikes the taste of alcohol or is a lifetime abstainer may not drink. Additionally, a psychosocial perspective may not consider that employed people can also experience high stress levels, either from fear of future unemployment or job stress. With equal stress levels, albeit from different sources, the drinking patterns of employed and unemployed groups may be similar.

Studies which demonstrate varied associations between employment status and drinking patterns may indicate who operates according to a psychosocial framework and who operates according to an economic framework of alcohol use upon unemployment. Studies which demonstrate a lack of association between employment status and alcohol consumption generally indicate a lack of association between unemployment and alcohol consumption in the population studied. Such a complex issue as the human response to

unemployment can not be viewed from a single economic or psychosocial perspective. However, using both frameworks, an investigator may determine which (if any) theory best explains how unemployment affects drinking patterns in the population studied.

Two studies were identified which, although not specifically investigating employment status, can shed light on the process by which unemployment may lead to changes in alcohol consumption (Humphreys, Moos, & Finney, 1996; Pierce et al., 1994). Humphreys et al. used path analyses to predict alcohol consumption on typical drinking days in a three year follow-up of problem drinkers. Investigators found that prior alcohol consumption enhanced financial stressors ($\beta = .12$) which increased alcohol consumption ($\beta = .11$) ($p < .05$). However, participants were recruited from a detoxification unit or an alcoholism referral center. Findings may differ for people who do not have an alcohol problem. Additionally, since the volume of increased alcohol consumption was not noted, one cannot determine its clinical significance. The increase in alcohol consumption may have been very small. Still, this study suggests that the stress associated with the financial strain of unemployment may have a similar effect on “problem drinkers”.

Pierce et al. (1994) considered “problem drinkers” when investigating how stress influences alcohol consumption. Employing prior research on drinking motives and affect regulation theory as a conceptual framework (Cappell & Greeley, 1987), a model was developed to demonstrate the relationship between various psychosocial and mediating variables and alcohol consumption. Investigators found that acute financial problems and chronic financial strain had a direct and positive influence on depression,

which in turn influenced drinking to cope with negative emotions. Those depressed people who drank to cope with negative emotions drank more when having financial difficulties. The authors concluded that psychological distress and drinking to cope represented mediating factors between several psychosocial factors and alcohol consumption. This model may help explain why the people with alcohol problems in Humphrey et al.'s (1996) study drank more when under stress, why the use of alcohol to relieve stress may be most applicable to those people who abuse alcohol prior to unemployment (Hammer, 1992; Janlert & Hammarstrom, 1992), and why people with similar stress levels can differ by how much they drink. Those people who drink to cope with negative emotions (i.e., people with alcohol problems) will drink more when under stress; whereas those people who do not drink to cope with negative emotions will not change their drinking patterns, even when stressed.

While both Humphrey et al.'s (1996) and Pierce et al.'s (1994) models describe how stress can influence alcohol consumption, neither approach provides a direct pathway where financial strain can influence alcohol consumption (economic framework). As such, it is difficult to compare an economic / psychosocial framework using these models.

Research Literature

The studies reviewed are presented in chronological order in Appendix B. A total of twenty-two studies were located which met the criteria for inclusion in this literature review. Most of the studies were published in the past ten years. Janlert and

Hammarstrom (1992) conducted a review of articles on unemployment and alcohol consumption for the period of 1978-1990. Out of sixteen studies cited by these authors, eight demonstrated a positive association between unemployment and heavy drinking or drinking problems, five found no association between unemployment and heavy drinking or alcohol consumption, two demonstrated variation in results, and only one study found a decrease in alcohol consumption among the unemployed.

The following review groups studies according to provision of support for the two main paradigms which dominate the theoretical discussion on the topic, i.e., the psychosocial and the economic frameworks. The role of moderating variables on these frameworks are also discussed. Stress level and drinking to cope with negative emotions represent the moderating variables for a psychosocial framework. Degree of financial restraint represents the moderating variable for an economic framework. The role of demographic variables on alcohol consumption patterns during unemployment is also explored. Unless specified otherwise, researchers cited in this literature review included both males and females in their investigations. Appendix B supplements the literature review by providing a more detailed description of studies. Following the overall discussion, methodological difficulties within studies of employment status and alcohol consumption are identified and a summary of the literature review is presented.

Positive association between unemployment and alcohol consumption

Several cross-sectional studies have demonstrated a positive association between unemployment and alcohol consumption (Fleming et al., 1998; Gornberg et al., 1999;

Layne & Whitehead, 1985; Rowlands & Huws, 1995). However, this association may be most evident for “problem drinkers”.

In a large longitudinal study, Fleming et al. (1998) found that “men, current smokers, and those who were single, retired or unemployed were all significantly ($p < .05$) more likely to be at-risk drinkers” (p. 91). Although the investigators used standards established by the National Institute on Alcohol Abuse and Alcoholism, regression analyses were not conducted separately by gender. Rather than using more than 7 drinks a week for women and more than 14 drinks a week for men, 15 or more drinks were used as the marker for overall “at-risk” drinking. Layne and Whitehead (1985) also investigated heavy drinking using the same binge drinking standards as Fleming et al.. The study by Layne and Whitehead was limited to 3430 young Canadian men aged 15-29 years who took part in the 1981 Canada Fitness survey. The authors found that unemployed men had the highest percentage of heavy drinkers (22%) compared to employed (16%) or student (11%) heavy drinkers. Results were limited to descriptive level only and significance values were not provided.

Gomberg et al.’s (1999) study was limited to women in several alcoholic treatment centers who were matched with a control group of non-alcoholic women. They found that the women in treatment were less likely to be working outside the home (55.2%) compared to the control group (76.7%) ($p = 0.001$). The women with alcohol problems also had lower educational achievements despite having early socioeconomic backgrounds which were similar to the control group. The authors suggested that problem drinking in early family experiences may have been a link to future alcohol

problems and lower educational achievement.

The previous studies suggest that unemployment may be linked to heavy drinking among some unemployed members. Young single males may be more likely to experience at-risk drinking, although females can also be at-risk drinkers. Although investigators presumed that the stress of unemployment may lead to at-risk drinking, none of these studies measured actual stress levels. Also, while the stress of unemployment may increase heavy drinking, these studies provide no indication that unemployment increased overall alcohol consumption. Rather, it may only enhance a tendency for at-risk drinking.

Only one cross-sectional study was found which measured psychological stress by employment status. It also identified a higher mean alcohol consumption by unemployment status. Rowlands and Huws (1995) used the General Health Questionnaire (GHQ) to compare stress levels with alcohol consumption between employed and unemployed individuals. Unemployed respondents expressed higher mean levels of psychological distress ($p < 0.001$) and more of the unemployed scored above an arbitrary threshold of 5 for a high level of distress ($p < 0.0001$). Unemployed respondents also had a greater total weekly alcohol consumption (30.9 units per week vs. 22.6 units per week; $t = 2.62$, $p < 0.01$) and a greater percentage reported drinking more than 21 units per week (54% unemployed, 37.3% employed; $p < 0.02$). More of the unemployed reported an increase in their recent drinking (34.5%) compared to the employed (16.7%) ($p < 0.01$).

None of these cross-sectional studies can determine causation between

unemployment and drinking patterns. However, unemployment has also been associated with heavy drinking in longitudinal studies (Catalano et al, 1993; Janlert & Hammarstrom, 1992; Power & Estaugh, 1990). Once again, associations between unemployment and alcohol consumption may be most evident for “problem drinkers”. As in most of the previous cross-sectional studies, none of the following longitudinal studies measured the stress levels of participants.

The prevalence of alcohol abuse in several U.S. cities was measured by Catalano et al. (1993). Alcohol abuse was measured using a standardized Diagnostic Interview Schedule rather than the standards set by the National Institute on Alcohol Abuse and Alcoholism (Fleming et al., 1998; Layne & Whitehead, 1985). These investigators found that, controlling for prior alcohol abuse, there was a positive association between alcohol abuse and job loss.

Although not definitive, it has been suggested that the highest stress levels may be associated with long-term unemployment (Dirksen, 1994; Morrell et al., 1998). Therefore, some investigators have distinguished between long term and short term unemployment. Both Janlert and Hammarstrom (1992) and Power and Estaugh (1990) compared the alcohol consumption of participants who were unemployed long term against those who were either employed or unemployed for a short period. Janlert and Hammarstrom found that over a five year period, alcohol consumption was twice as high among those participants with long term unemployment compared to those who were employed or unemployed for a short time. Power and Estaugh’s analyses revealed that duration of unemployment was positively associated with current heavy drinking in

males ($p < 0.001$). The investigators found that the likelihood of increased alcohol consumption was significantly higher among men who were unemployed for longer than six months when compared to those who were employed or unemployed for lesser periods ($OR = 1.38$; $CI = 1.14-1.64$). However, the clinical significance of these odds ratios must be questioned. Although odds ratio is at least equal to relative risk, it often overestimates it (Munro, 1997). Therefore, although length of unemployment affected the probability of heavy drinking, its effect may have been small. Additionally, both Power's and Estaugh's and Janlert's and Hammarstrom's studies were conducted with very large samples. Even modest relationships can be statistically significant with large samples and the correlational coefficients must be analyzed to determine clinical significance (Munro, 1997; Polit & Hungler, 1995). Janlert and Hammarstrom noted a correlation of 0.22 between unemployment and males who began to drink heavily over the course of their study. This correlation indicates little if any relationship. Finally, grouping the short term unemployed with the employed in Power's and Estaugh's study may have influenced findings.

It appears that if there is an association between unemployment and drinking, its effect may be to increase heavy drinking among some participants (Catalano et al., 1993; Flemming et al., 1998; Gombert et al., 1999; Layne & Whitehead, 1985; Power & Estaugh, 1990; Rowlands & Huws, 1995). Whether drinking to cope with stress or other demographic variables (described later) represent key variables between unemployment and alcohol consumption remain to be seen. However, associations between unemployment and drinking may be small. Only one study investigating alcohol

consumption by employment status measured stress levels (Rowlands & Huws). In that study, the unemployed group had both higher stress levels and more heavy drinkers compared to the employed group.

Negative association between unemployment and alcohol consumption

While not all studies have demonstrated positive associations between unemployment and alcohol consumption, there is little support for a negative association between unemployment and alcohol consumption. Time-series aggregate level studies have found a negative correlation between unemployment levels and per-capita alcohol consumption (Lester, 1996) or hospital admissions for alcohol disorders (Brenner, 1975). However, such studies have come under the criticism of “ecological fallacy”. That is to say, aggregate level data may not provide an accurate reflection of individual relationships (Dooley et al., 1992; Lahelma et al., 1995; Robinson, 1950). It is generally accepted that individual level data is necessary to provide a reliable picture of any associations between employment status and drinking behavior.

Leino-Arjas et al. (1999) conducted a longitudinal study in the construction industry where periods of unemployment were common. Participants who experienced long term unemployment reported more stress symptoms (odds ratio 2.0; CI 1.2-3.2) and a decreased alcohol consumption compared with all other participants (odds ratio 2.88; CI 1.59-5.22). These findings do not support the theory that the stress of unemployment leads to increased alcohol consumption. Rather, even with higher stress levels, this study suggests that the economic strain of unemployment led to decreased alcohol

consumption. If the authors had provided the alcohol consumption values of the sample, actual differences by employment grouping could have been compared. Perhaps most significantly, without differentiating heavy drinkers, this group who may be most likely to increase drinking upon unemployment may not have been noted. Additionally, although frequent bouts of short-term unemployment makes it difficult to classify employment status, the authors do not discuss the implications of treating those unemployed for two years or less as if they were employed. Grouping the short-term unemployed with those fully employed may have influenced their findings.

Leino-Arjas et al.'s (1999) study was significant though in that it studied people with frequent bouts of unemployment. This population is similar to that of the present study. As Leino-Arjas et al. suggest, unemployment among this group may not have been as much of a threat to occupational identity as unemployment in a group where long-term employment was common. It would have been useful if the authors had: (a) provided a greater description of actual alcohol consumption patterns by employment status and (b) discussed how grouping the short-term unemployed with the employed for analyses may have influenced findings.

Lack of association between unemployment and alcohol consumption

Several longitudinal studies have not found an association between unemployment and alcohol consumption (Hajema & Knibbe, 1998; Hammer, 1992; Iversen & Klausen, 1986; Lahelma et al., 1995; Morris, Cook & Shaper, 1992).

Lahelma et al. (1995), conducted a one year longitudinal study on unemployment.

Both univariate and multivariate analyses led the authors to conclude that neither the frequency of drinking or intoxication was associated with employment status. However, individual changes could not be analyzed because of small numbers in drinking categories (particularly for women) and the unemployed were not necessarily the same people at the two measurement points.

A second longitudinal study by Hammer's (1992) found no significant relationship for mean alcohol consumption by employment status when linear regression analyses controlled for variables such as prior drinking behavior, income levels, and peer's use of alcohol. However, since unemployment may influence heavy alcohol consumption rather than overall alcohol consumption, it may have been useful to perform a logistic regression analyses using heavy drinking rather than mean alcohol consumption as the dependent variable. Yet, Hajema and Knibbe (1998) found that job loss over the course of their nine year longitudinal study was not associated with *either* overall alcohol consumption change or heavy drinking.

Iversen and Klausen (1986) conducted a two year study with a small sample (n=88) of laid-off Danish shipyard workers. Reductions in alcohol consumption following job loss were noted, but these findings were not statistically significant ($p < 0.1$). Findings compare with Leino-Arjas et al. (1999) who found a decrease in alcohol consumption with (long-term) unemployment.

Morris, Cook and Shaper (1992) limited their sample to those people who had been continuously employed for at least five years before the initial screening (n=6057). Therefore, the effects of previous unemployment were controlled for in this study. Over

the five year period, the numbers of heavy drinkers fell in all employment groups and there were no differences in the percentage of heavy drinkers by employment grouping. However, the classification of heavy drinkers in this study (consuming more than 42 units per week) was much higher than the heavy consumption classification in most studies.

The previous studies suggest that alcohol consumption is affected by factors broader than unemployment per se. Perhaps unemployment may accentuate these factors for *some* individuals. McNaughton, Sauve, Ashmore, and Robson (1998), in a Canadian study, found that there were varied reasons for problem drinking. Several seniors drank from loneliness, others identified drinking as an “occupational hazard”, drank for “social reasons” or to deal with “problems”.

Multivariate analyses conducted with several longitudinal samples have indicated that employment status was not related to either drinking frequency, intoxication, changes in mean alcohol consumption, or evidence of heavy drinking. Those few studies that measured mental well-being (Hammer, 1992; Lahelma et al., 1995) did not describe this variable by employment status. Therefore, readers are unable to determine if participants differed in mental well-being by employment status: a key component of a psychological framework. None of these longitudinal studies measured financial strain, a key component of an economic framework.

These studies suggest that factors other than employment status may have a stronger influence on drinking. While some individuals may drink heavily to deal with problems, others may drink heavily as an “occupational hazard”. Predictors of alcohol

consumption are likely to be multifactorial and complex.

Varied association between unemployment and alcohol consumption

Several studies have found a varied association between unemployment and alcohol consumption (Crawford et al., 1987; Dooley & Prause, 1998; Ettner, 1997; Groeneveld et al., 1990; Lee et al., 1990; Luoto et al., 1998). These studies suggest that findings are influenced by (a) the consumption measure chosen (Crawford et al.; Dooley & Prause; Groeneveld et al.) (b) aggregate data masking those who may change alcohol consumption upon unemployment (Groeneveld et al.) (c) the area's general unemployment rate (Luoto et al.) or (d) the distinction of involuntary unemployment as opposed to not working (Ettner).

Three studies have particular significance because, similar to the present study, they were conducted at high unemployment periods (Crawford et al., 1987; Groeneveld et al., 1990; Luoto et al., 1998). Crawford et al. found that among participants who drank within the previous week, mean alcohol consumption did not differ by employment grouping. However, the unemployed drank more (mean = 11.8; SD = 10.01) on their heaviest drinking days than the employed (mean = 8.6; SD = 7.4; $p=0.002$). They also reported faster consumption rates in units per hour, per drinking day, and per drinking period ($p<0.05$). The unemployed also experienced more adverse effects of drinking (mean = 2.8; SD = 2.3) in the previous two years compared to the employed (mean = 1.6; SD = 1.7; $p = 0.001$). The authors noted that the selection of consumption measures will affect the interpretations that can be drawn from studies on unemployment and

drinking behavior. Had the investigators not chosen to measure such a variety of drinking problems, drinking differences would not have been identified. Findings again support the suggestion that differences by employment grouping occur in “at-risk” drinking patterns rather than in mean alcohol consumption. Most respondents in Crawford et al.’s study drank at least weekly and alcohol consumption was rather high (18 units; SD 19.7 for those employed and 22.5 units; SD 23.1 for those unemployed). Findings may differ in a setting with a generally lower alcohol consumption. Also, performing mean consumption on all who classified themselves as drinkers rather than just those who drank in past week may have provided a fuller description of the overall sample.

Groeneveld et al. (1990) conducted their study in an Ontario community after the 1982 recession to investigate how the stress of unemployment influenced substance use. The investigators developed a model describing the factors which may influence substance use upon unemployment. Basically, the degree of economic deprivation, reduced socialization, influence on family relations, and personal sense of control / anxiety / social support were identified as key mediating variables for substance use upon unemployment. Demographic variables such as age, gender, and education also influenced alcohol consumption. The authors noted that the model was a multivariate projection derived from bivariate analyses of a small sample (n=191). The model did not consider how increased alcohol consumption upon unemployment may be most applicable for “problem drinkers”. Although Groeneveld et al.’s model can be used to compare an economic and psychosocial framework, it does not consider how drinking to

cope with negative emotions can also influence alcohol consumption. All participants in the study were unemployed, and most people had both increased financial hardship and medium to high stress levels. Aggregate analyses revealed that overall alcohol consumption decreased with unemployment; particularly among those who drank heavily. However, as significance values were not provided for changes, it is possible that these occurrences may have been from chance alone. Additionally, the “ecological fallacy” criticism can be applied to this data set. On an individual basis, investigators found that despite high stress levels and increased financial hardship; most people (53.1%) kept their usual consumption pattern upon unemployment, 33.9% of individuals decreased, and 13% increased consumption after becoming unemployed. Although Groeneveld et al.’s study did not have a control group to compare findings, most evidence supported a stability or decrease in alcohol consumption upon unemployment.

Luoto et al.’s (1998) national study considered how the local unemployment rate may influence drinking upon unemployment. Unlike most studies, unemployment was defined as unemployment lasting “most of the year”. Univariate analyses, conducted separately for men and women, indicated that unemployment was associated with a higher mean alcohol consumption for unemployed males ($p < 0.05$) regardless of local unemployment rate. More of the unemployed, irrespective of gender, were heavy drinkers ($p < 0.001$). Logistic regression analyses revealed that unemployment was only associated with higher alcohol consumption among single people during periods of high unemployment only.

Ettner (1997) suggested that there may be differences in drinking patterns

between the unemployed who were seeking work as opposed to the unemployed in general. She divided the unemployed in her sample into (a) *involuntarily employed*: to describe those who were currently seeking a job and (b) *not working*: to describe those who were either involuntary unemployed or not participating in the workforce. It appeared that the stress of job loss led to an increase in alcohol consumption for those involuntarily unemployed, while income effects appeared to reduce consumption for those classified as not working (who drank significantly less alcohol and had significantly less dependence symptoms). Since alcohol consumption was only increased by two ounces of alcohol per day, and this occurred only among those who were involuntarily unemployed, Ettner concluded that it was unlikely that unemployment led to alcohol abuse.

Dooley and Prause (1998) investigated the effect of unemployment on alcohol misuse. Logistic regression analyses revealed that although becoming unemployed was related to the risk of alcohol symptoms in the first year of the study (OR=2.21, CI 1.23-3.97, $p<.05$), it was not related to heavy drinking. By the final year of the study, unemployment was not related to either alcohol symptoms or heavy drinking. Dooley and Prause suggested that as respondents became older they learned improved coping methods to deal with stressors (including having increased social and financial reserves). Defining the core sample as those who were initially employed in both pairs of years may have influenced findings. The unemployed in these groups may have had shorter bouts of unemployment, posing less of a threat to their self-concept as people who experience longer periods of unemployment.

Finally, Lee et al.'s (1990) secondary analyses of the Scottish Heart Health Study found that although more of the employed drank in the previous week, there were more moderate and heavy drinkers among the unemployed. Significance values were not provided. Among those people who had drank in the previous week, mean alcohol consumption was higher among those who were unemployed (29.8 units) compared to those who were employed (20.7 units) ($p < 0.001$). This effect remained when standardized for age and social class. Additionally, although binge drinking (see p.10 for definition) was common in both groups, the proportion was higher among the unemployed than the employed group (58.8% vs. 33.5% for the previous week; $p < 0.0001$). Although these findings may suggest that unemployment increases alcohol consumption, results may have been different if analyses had been conducted on all those who would classify themselves as "drinkers" rather than on just those who drank in the past week. Results may also have been different using standard classifications for drinking patterns.

These studies, which have found a varied association between employment status and alcohol consumption, concur with previous investigations suggesting the importance of distinguishing between overall drinking and increases in "heavy" drinking. Measures of alcohol misuse are not necessarily identified with overall mean alcohol consumption values (Crawford et al., 1987). These studies also suggest other factors which can influence drinking patterns upon unemployment. Such factors include the unemployment rate of the area (Luoto et al., 1998) and whether one is involuntarily unemployed as opposed to not working (Ettner, 1997). Additionally, Peirce et al. (1994)

would suggest that people who maintain their drinking patterns or drink less upon unemployment do not tend to drink to cope with negative emotions. Alternatively, Dooley and Prause (1998) suggested that the growth and development among young adults tend to improve their ability to cope with job loss. All these factors underscore the importance of measuring moderating variables for alcohol consumption (economic hardship, psychological distress, and tendency to use alcohol as a coping mechanism for increased stress). Measurement of these moderating factors is essential to promote accurate interpretation of findings.

Demographic factors and alcohol consumption

Part of the problem in examining the association between unemployment and alcohol consumption is that there is no simple cause and effect relationship. Rather, a number of moderating variables affect the relationship. The influence of stress levels, economic strain, and drinking to cope with stress have been described. Differences in alcohol consumption can also be affected by several demographic variables which may have a stronger influence on drinking than employment status, or may interact with employment status to influence consumption change. These demographic variables include age, gender, and marital status.

Age

Some studies which have noted increases in drinking upon unemployment found that increases were more prominent among youth. Catalano et al. (1993) found that being younger and unemployed increased the chance of alcohol disorder (see p.109 for definition). Layne and Whitehead (1985) noted that highest percentage of heavy drinkers

in their study were among the unemployed youth. Groeneveld et al. (1990) found that younger participants increased their alcohol consumption upon unemployment more frequently than older participants ($\chi^2=10.33$, $DF=4$, $p=0.04$). Age variations in increased drinking upon unemployment may arise both from differences in adjustment to unemployment and differences in available disposable income. Reviews have demonstrated psychological disturbances with youth unemployment (Banks, 1995; Morrell et al., 1998). Although the stress associated with unemployment may be highest among middle aged people (Winefield et al., 1991), youth may have less financial responsibility and therefore more disposable income to spend on alcohol. Measurement of stress levels and financial strain is necessary to interpret findings. However, differences in alcohol consumption with unemployment by age is not a consistent research finding. Lee et al. (1990) noted a higher mean alcohol consumption among the unemployed, and the effect remained when standardized for age. Morris, Cook and Shaper (1992) found no differences in the percentage of heavy drinkers by employment grouping when findings were adjusted for age and social class.

Gender

Males and females may differ in the way they change drinking patterns upon unemployment. These variations may reflect gender differences in the psychological adjustment to unemployment (Banks, 1995; Dirksen, 1994; Winefield et al. 1991). Winefield et al. noted that unemployed males experienced more stress than those who were in unsatisfactory unemployment. The reverse was true for females. Other studies have found that whereas mean alcohol consumption increased with long-term

unemployment for men, the reverse was true for women (Janlert & Hammarstrom, 1992; Power & Estough, 1990). Janlert and Hammarstrom concluded that motherhood may have had an influence on decreasing consumption patterns in women, and that young men may be at most risk for increasing alcohol consumption during unemployment. Groeneveld et al. (1990) found that unemployed females were more likely to maintain (low) pre-unemployment drinking patterns (70.4%), whereas unemployed males were more likely to increase (18%) or decrease (39.3%) consumption (chi-square=10.52, DF=2, $p=0.01$). Several of the relationships in Pierce et al.'s (1994) model predicting alcohol use / alcohol problems from financial strain differed according to gender ($p<0.001$). For example, the relationship between chronic financial strain and depression with drinking to cope was stronger among males than females. Men may be more likely to cope with financial strain by increasing drinking. However, much of the previous research has focused on middle aged males and often there has been no differentiation of women who choose not to be in the paid workforce. This factor may influence findings. For example, females who choose to remain home and care for their children may not experience the same stress of unemployment as those who lose their job. Although there may be gender differences in drinking upon unemployment, this is not a consistent finding. Luoto et al. (1998) found that more unemployed people were heavy drinkers, regardless of gender. Several other studies found that males were more likely to be at-risk drinkers (Catalano et al., 1993; Fleming et al., 1998; Janlert & Hammarstrom, 1992).

Marital status

Not all studies looked at the influence of marital status, but where included, it

was found to be an important variable. Luoto et al. (1998) noted that during the recession, the risk for heavy drinking was greater for unemployed single women with a high level of education (odds ratio 2.4; CI 1.4 - 4.3) and unemployed single men with a medium level of education (odds ratio 1.6; CI 1.1 - 2.4). Ettner (1997) found that unemployment decreased alcohol dependence among those who were single. The authors suggested that diminished income may have had more effect on single people with no additional (spousal) source of income.

Methodological Difficulties in Studies of Unemployment and Alcohol Consumption

Coming to a conclusion regarding employment status and alcohol consumption is difficult because of several methodological difficulties in previous research. First, there are diffuse ranges of consumption measures for analysis. For example, consumption has been measured as per annum consumption of pure alcohol (Hammer, 1992; Janlert & Hammarstrom, 1992) or as usual weekly units of alcohol which differ in classification according to gender (Power & Estough, 1990). These variations may influence results and make meaningful comparisons difficult. Additionally, studies do not always differentiate between *changes* in consumption patterns (Fleming et al., 1998; Lee et al., 1990).

Not all studies consider *both* general, as well as, “at-risk” alcohol consumption. Even when “at-risk” status is considered, criteria to define “at-risk” alcohol use varies from more than 7 drinks per week to more than 21 drinks per week (Fleming et al., 1998). Heavy drinking in Power and Estough’s (1990) study (consuming 20+ units per

week for women or 35+ units per week for men) or Lee et al.'s (1990) study (more than 50 units per week) fall well above what may be considered "safe" alcohol consumption (National Institute on Alcohol Abuse and Alcoholism, 1995; Saunders, Aasland, Amundsen, & Grant, 1993). Different countries or regions may have different norms regarding drinking which can decrease the generalizability of findings (Winton, Heather, & Robertson, 1986). The definition of and treatment of abstainers can also influence findings. The treatment of abstainers in previous studies was described in the introductory chapter.

Some studies have small sample sizes for analyses (Crawford et al., 1987; Iversen & Klausen, 1986). Other studies do not have a comparison group (Gomberg et al., 1999; Groeneveld et al., 1990). Lack of a comparison group makes interpretation of findings more difficult (Polit & Hungler, 1995). Many samples consist of solely of men (Crawford et al., 1987; Layne & Whitehead, 1985; Lee et al., 1990; Leino-Arjas et al., 1999; Morris et al., 1992; Rowlands & Huws, 1995). Gender differences are important. Studies have shown that drinking has been identified as a way for women to cope with the stress of unemployment, financial problems, discrimination in the workforce, and multiple roles associated with employment (Charles & Walters, 1994; Walters, 1992). Associations with drinking may be different for women than men. Wilsnack and Wilsnack (1992) noted the complex relationship between female paid employment and alcohol use.

The categorization of homemakers inconsistently across studies may also influence findings. Some classify these people as employed (Luoto et al. 1998). Still

others classified them separately (Power & Estaugh, 1990), as unemployed (Ettner, 1997) or exclude them from analysis (Crawford et al., 1987; Lahelma et al., 1995).

Finally, many studies do not measure economic strain or stress level; the two key mediating components used to explain alcohol consumption by employment status. Those few studies that measured mental well-being (Hammer, 1992; Lahelma et al., 1995) did not describe this variable by employment status. Therefore, readers are unable to determine if participants differed in mental well-being by employment status: a key component of a psychological framework. None of the longitudinal studies measured financial strain, a key component of an economic framework.

Summary

It can be concluded that although there may be an association between employment status and alcohol consumption; this is not a consistent research finding. Alcohol consumption change may be affected by degree of economic hardship, differences in stress level as a result of unemployment, and willingness to use alcohol as a stress reliever. Differences in alcohol consumption may also be affected by several demographic factors. Many studies do not measure and describe all these variables when investigating alcohol consumption by employment status. The present study includes a description of all these variables; using standardized measurements of stress levels, alcohol consumption, and “at-risk” alcohol use. Analyses are performed (both including and excluding abstainers) to determine if inclusion of abstainers made results erroneous. Homemakers are excluded from analyses to minimize the effect of possible voluntary unemployment.

CHAPTER 3

METHODOLOGY

This study was part of the health section of a large interdisciplinary project entitled *Sustainability in a Cold Ocean Coastal Environment*, funded by the Tri-Council Eco-Research Program. Thirty researchers from the social and natural sciences, education, and nursing investigated what was needed to enable cold ocean coastal communities to remain sustainable after the northern cod fishery moratorium. The study areas included the headland of the Bonavista Peninsula and the Isthmus of the Avalon Peninsula (Appendix C) (Ommer, 1998). The four main objectives of the project included: (a) identification of community characteristics that contributed to sustainability (b) identification of how, when and where these stabilizing characteristics changed (c) description of how these changes affected the lifestyle, economy, health, and education of community members and (d) the development of a framework to utilize when making policy decisions, including the effect that these decisions would have on community sustainability.

The health section component of the interdisciplinary project was conducted by researchers Gien and Solberg; assisted by graduate students Stevens and Walsh-Murray. The section focused on how the northern cod fishery crisis affected the health of individuals and families in the communities studied. The present study adds to the health section by providing a rich description of the alcohol consumption patterns of people living in the Bonavista Headland and the Isthmus of the Avalon Peninsula according to

employment status. Demographic and moderating factors which may have affected alcohol consumption (financial strain, stress level, and drinking to cope with stress) are also described. This information could be used to help identify how massive job losses associated with the fishery crisis influence drinking practices. It could also determine which, if any, theoretical framework (economic or psychosocial) best explains the drinking patterns among the population studied.

Design

The present study employed a descriptive comparative design using a secondary analysis of information gathered in the health section of the 1995 Tri-Council Eco-Research Council project.

Population and Sample

The target population for the primary study was all households of the Bonavista Headland and the Isthmus of the Avalon Peninsula (Appendix C). Twenty-two communities on the Bonavista Headland and three communities on the Isthmus of Avalon were represented. Census data indicated that there were 4090 households in this region (Statistics Canada, 1992). Twelve percent of these households were randomly contacted from an up-to-date list of residential phone numbers, with 214 households (43.23 %) refusing an interview. Therefore, there was a 56.77% response rate of those households contacted. Within the households that responded there were 1006 eligible participants. One hundred and twenty five people (12.42%) were not interviewed at this

level, leaving 881 participants in total. Information was gathered between March - June 1995 by six trained local interviewers.

A subset of the primary sample was chosen for this secondary analysis. Those people between the ages of 16 and 66 years of age who were not listed as retired, keeping house, or a student were included. There were 564 participants in the subset sample, who were then divided into two groups. Groups consisted of those who were *employed* (either full-time or part-time) and those who were *unemployed* (considered themselves as unemployed and looking for a job). Because differences in alcohol consumption may be masked by those people who choose not to drink because of personal choice, the subsample (n=564) of the larger study was further subdivided into those who classified themselves as drinkers (n=410) and the same analyses were performed for this group as with the original subsample (n=564).

Instrumentation

Selected components of the primary Eco-Research health survey were used for analysis (Appendix A). This survey was developed by the principal researchers using Canada's health promotion survey (Stephens & Graham, 1990) as a guide for questions related to alcohol consumption, and general stress level (see Appendix D). The survey also included descriptive data such as participant's age, gender, marital status, responsibility for children under sixteen years of age, employment status, financial status, satisfaction with life and finances, areas of financial cutbacks, ways of coping, and perceived ways to improve health.

The primary study also used the GHQ-28 (General Health Questionnaire-28) as a dimensional measure of psychological disturbance. This 28 item standardized instrument is a shorter version of the original GHQ-60 questionnaire used to detect general mental disorder (Goldberg & Hillier, 1979). The GHQ-28 has four subscales: somatic symptoms, anxiety/insomnia, social dysfunction, and severe depression. A higher score for the GHQ-28 indicates more psychological distress. Concurrent validity of the GHQ-28 has been tested with the Clinical Interview Schedule (Goldberg & Hillier). The correlation between the total GHQ-28 score and independent clinical measures of (a) anxiety was 0.67 (b) depression was 0.73 and somatic symptoms was 0.32. The GHQ-28 has a test-retest coefficient range of 0.51 to 0.90 and internal consistency estimates of 0.78 to 0.95 (Gage & Leidy, 1991).

Goldberg and Williams (1991) provided thresholds, or levels, to identify psychological disturbance in 16 validity studies using the GHQ-28. The threshold of 4/5 or 5/6 was the most common, although some studies used a threshold of 11/12. In this secondary analysis, proportions of respondents scoring above a threshold of 15 were compared (by employment grouping), as well as the means and standard deviations between each group. The threshold of 15 was chosen because of generally high GHQ scores throughout both employment groupings. The mean GHQ value for the sample was 15.83 and therefore a conservative estimate of psychological disturbance was used to identify the “more stressed” of the groups. The threshold of 15 was close to the value of 12 used in another community study (Gage & Leidy, 1991).

Data collected on alcohol use were categorical level (*frequency*: every day /

occasionally / stopped; change in drinking status over the past two years) and ratio level (*amount*: amount drank per day or week). In addition, categorical data were gathered regarding whether the participant drank more under stress. Duration of unemployment was measured on an interval level (in number of weeks). Present stress was measured both on a categorical (subjective rating) as well as on an interval level (GHQ-28). GHQ values were also dichotomized into categorical levels using a threshold value of 15 as cited previously. Number of financial cutbacks were treated as interval level data by adding the number of cutback areas over the previous three years. Throughout analyses, interval level data were grouped and treated as categorical level data because of severely skewed distributions. However, both parametric and nonparametric tests were performed as appropriate.

Analysis

Data were coded by research assistants into a data file. Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics (means, standard deviations, percentages) were used to generate a descriptive profile of the sample's demographic variables (gender, age, marital status) by employment status. Differences in alcohol consumption by employment status were investigated using the t-test for independent samples, and where applicable chi-square. Since unemployment may have the greatest effect on increasing heavy drinking rather than overall drinking, differences were analyzed by comparing a variety of alcohol consumption patterns -- including the presence of at-risk drinking. The appropriate non-parametric test (Mann-

Whitney U) was used where parametric assumptions were violated (Polit & Hungler, 1995). Where there was agreement between parametric and nonparametric tests, parametric findings were noted. Potential moderating factors for alcohol consumption (financial strain, stress level, and self-reported increased drinking when under stress) among the employed and unemployed individuals were identified using means, standard deviations, and percentages. Support for either an economic or a psychosocial framework of alcohol consumption was noted. Finally, since inclusion of non-drinkers into analyses may have made the results erroneous, findings were reanalyzed using only those people who had drunk alcohol in the previous year (n=410). Similarities and differences from original findings were noted.

Reliability and Validity of Data

The principal researchers used Canada's health promotion survey as a guide for the development of questions on alcohol consumption for the eco-research health survey. The developed questionnaire was reviewed in a team workshop and pretested in a location with similar characteristics to the researched communities prior to being used for the main study (Ommer, 1998). These measures enhanced the validity of data. The other instrument used in the study was the GHQ-28. Reliability and validity of this instrument has been previously discussed. The GHQ-28 has been used extensively throughout many parts of the world to measure psychological distress and has been translated into 38 languages (Goldberg & Williams, 1991).

Ethical Considerations

The original study was approved by the Human Investigations Committee, Memorial University of Newfoundland (Appendix E). Written, informed consent was obtained prior to the interview (Appendix F). The written consent included an explanation of the purpose of the study and the expected length of the interview. Subjects were informed that they could refuse to answer any question or withdraw from the study at any time. Participants could choose the best day and time of day for the interview. They were assured confidentiality of information given and were provided a description of how confidentiality would be maintained. There were no anticipated physical or psychological risks. Neither the names of participants or participating communities were required or available to this investigator for secondary analyses. The relevant data were stored on a computer diskette and only made available to this researcher and her supervisors. This diskette will be returned to the supervisors upon completion of the study.

This chapter has presented the methodology for this study, including a description of the original interdisciplinary project. The importance of distinguishing between (a) drinkers / nondrinkers and (b) overall alcohol consumption / heavy drinking / alcohol problems was noted.

CHAPTER 4

FINDINGS

This chapter presents the findings of alcohol use in an area of economic uncertainty by employment status. Findings are divided into two major sections. The first section presents the findings for the total group of participants (N=564) and the second section is limited to a subsample of drinkers only (n=410) since the inclusion of non-drinkers in the analyses may lead to erroneous conclusions.

Both major sections include a) an employment and general descriptive profile of participants (includes demographic variables as well as their satisfaction with both life in general and finances), b) a description of participant's alcohol consumption patterns (with a more detailed description for drinkers only), c) a description of potential moderating variables for alcohol consumption (stress level, financial strain, and reported increased drinking when under stress), followed by d) a description of how these moderating variables may have influenced the drinking patterns of unemployed and employed individuals. The impact of demographic differences by employment status is also considered. Finally, e) results from the subsample of drinkers only are compared to those of the original sample to identify whether findings change when the sample is limited to drinkers only, and f) the overall findings are interpreted to identify which (if any) theoretical framework (economic or psychosocial) is best supported by this study.

Employment and General Descriptive Profiles of All Participants

Table 1 provides an employment profile of the sample in this study ($n=564$). All participants had experienced paid employment at some time. Employment was generally long term (mean employment=18.09 years, $SD=10.11$) and punctuated by periods of unemployment. Individuals in the sample were unemployed on average two times in the past five years (mean=2.38, $SD=2.01$). Although lack of employment was common (58.7% were presently unemployed), most people in the community were still able to find periods of employment (67.4% had been employed in the previous year).

Table 2 provides the general descriptive profile of participants according to employment status. Findings suggested that unemployed people were more likely to be male (chi-square 7.94, $p=.005$) and single (chi-square 9.09, $p=.003$) compared to employed people. However, most participants in both employment groupings were partnered. The sample ranged in age from 18 to 66 years with a mean age of 38.7 years ($SD 10.09$), and did not differ significantly in age by employment status. Unemployed people had less formal education ($t=7.97$, $df=561$, $p<0.001$) and were less satisfied with both life in general ($t=7.43$, $df=561.94$, $p<0.001$) and their current financial situation ($t=7.19$, $df=534.29$, $p<0.001$) compared to their employed counterparts. Although generally satisfied, both groups reported higher satisfaction with life in general than with their current financial situation.

Table 1

Employment Profile of Sample (N=564)

Characteristic	n	(%)	Mean (SD)
Employment Experience			
Paid employment at some time	564	100	
Paid employment in previous year	380	67.4	
Average # years paid employment			18.09 (10.11)
Average # times unemployed in past 5 years			2.38 (2.01)
Present Employment Status			
Employed	233	41.3	
Unemployed	331	58.7	

Table 2

General Descriptive Profile of Sample by Employment Status (N=564)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Gender ¹						
Male	110	47.2	196	59.2	306	54.3
Female	123	52.8	135	40.8	258	45.7
Partnered ¹						
Yes	196	84.1	243	73.4	439	77.8
No	37	15.9	88	26.6	125	22.2
Age	233	M=38.10 SD=9.81	331	M=38.65 SD=10.29	564	M=38.7 SD=10.09
18 to 30	54	23.2	86	26.0	140	24.8
31 to 39	61	26.2	87	26.3	148	26.2
40 to 50	90	38.6	115	34.7	205	36.3
51 to 66	28	12.0	43	13.0	71	12.6
Years of Education ^{2&3}	233	M=12.44 SD=2.93	330	M=10.60 SD=2.54		
Satisfaction with life in general ^{2&4}	233	M=5.92 SD=1.18	331	M=5.02 SD=1.69	564	M=5.39 SD=1.56
Satisfaction with finances ^{2,3&4}	232	M=4.91 SD=1.54	331	M=3.90 SD=1.76	563	M=4.31 SD=1.74

¹chi-square: $p<.05$; ²t-test: $p<.001$; ³1 response missing; ⁴likert scale range 1 to 7 (1=least satisfied, 7=very satisfied).

Differences in Alcohol Consumption Patterns by Employment Status

Table 3 describes the alcohol consumption of the entire sample by employment status. Employed people were more likely to drink alcohol compared to their unemployed counterparts (78.5% versus 68.6% respectively; chi-square 6.84, $p=.009$). Most of the sample (84.3%) either did not drink in the previous week or drank in low quantity (less than eight drinks). There were no significant differences in percentages of low, moderate, or heavy drinkers by employment status. However, the unemployed tended to drink more heavily than the employed (mean 4.21, SD 9.20 vs mean 2.97, SD 6.82). There were large variations in drinking quantity, especially among the unemployed. Overall, consumption differences by employment status were not significant and drinking quantity tended to be light.

Potential Moderating Factors for Alcohol Consumption by Employment Status

According to the conceptual model developed for the study; stress level, financial strain, and use of alcohol as a coping mechanism are potential moderating factors which may help explain variations in alcohol consumption. Table 4 describes the stress levels and financial strain of employed and unemployed participants. Use of alcohol as a coping mechanism shall be described when the sample is limited to drinkers only.

Only 9% of the sample reported life as very stressful. An interesting dichotomy exists regarding reported stress levels. More unemployed than employed people reported *either* that their lives were very stressful or not at all stressful (chi-square =13.991;

Table 3

Alcohol Consumption Patterns by Employment Status (N=564)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Drinker¹	183	78.5	227	68.6	410	72.7
Abstainer	50	21.5	104	31.4	154	27.3
Number of Drinks in Past Week						
0	128	54.9	182	55	310	55
1-7 (light)	72	30.9	93	28.1	165	29.3
8-21 (moderate)	26	11.2	42	12.7	68	12.1
22-113 (heavy)	7	3.0	14	4.2	21	3.7
	233	M=2.97 SD=6.82	331	M=4.21 SD=9.20		

¹chi-square: $p < .01$

Table 4

Potential Moderators of Alcohol Consumption by Employment Status (N=564)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Present Stress Level¹						
Very stressful	12	5.2	39	11.8	51	9
Somewhat stressful	118	50.6	156	47.1	274	48.6
Not very stressful	77	33	80	24.2	157	27.8
Not at all stressful	26	11.2	56	16.9	82	14.5
Total GHQ Score²						
	228	M=15.4 SD=8.85	328	M=15.8 SD=10.1		
Dicotomized GHQ Score²						
Low stress (≤ 15)	141	61.8	208	63.4	349	62.8
High stress (>15)	87	38.2	120	36.6	207	37.2
Number of Cutbacks in Spending Over Last 3 Years^{3&4}						
0 to 3	147	63.6	139	42.1	286	51
4 to 11	84	36.4	191	57.9	275	49
Responsibility for Children Less Than 16 Years Old^{1&5}						
Yes	111	47.6	129	39.1	240	42.6
No	122	52.4	201	60.9	323	57.4

¹chi-square: $p < .05$; ²8 responses missing; ³chi-square: $p < .001$; ⁴3 responses missing; ⁵1 response missing.

$p=.003$). In contrast, employed people were more likely to report mid-range levels of stress than their unemployed counterparts. However, unlike the categorical ratings of participants, the GHQ-28 indicated that the stress levels of both groups were high, and not significantly different by employment status (t -test $p=.58$; MWU $p=.82$). Although standard deviations were rather high, mean scores for both groups were above 15. Since there were such large variations in GHQ scores within employment groupings, the scores were dicotomized using 15 as an approximate mean value to identify higher stress levels. This is a very conservative estimate of psychological distress, since 15 is well above the threshold of 5 or 12 set in previous studies (Goldberg & Williams, 1991; Gage & Leidy, 1991). Yet even with these conservative estimates, 38.2% of the employed and 36.6% of the unemployed experienced a high degree of stress. These values did not differ significantly by employment status.

Financial strain may also moderate alcohol consumption. This study uses cutbacks in spending and responsibility for children as indicators of financial strain. Many people had made cutbacks in spending over the previous three years, regardless of employment status. However, the unemployed were most likely to have made the greatest number of cutbacks (chi-square 25.7; $p=.000$). Differences in total number of cutbacks by employment status were also found with both the Mann-Whitney U ($z=-5.4$, $p=.000$) and the t -test for independent samples ($t=-5.26$, $df=559$, $p=.000$). Most participants (57.4%) were not responsible for children less than sixteen years old. However, the unemployed were less likely to have young children compared to their employed counterparts (chi-square 4.08, $p=.043$), even though the age distribution

between employment groupings was approximately equal.

Potential Impact of Moderating and Sociodemographic Variables on Alcohol Consumption by Employment Status

More unemployed than employed people reported that their lives were very stressful (5.2% employed; 11.8% unemployed, $p=.003$). Employed people were more likely to report mid-range levels of stress. Using a psychological framework, alcohol consumption should have been higher among the unemployed because more of this group reported the highest stress levels. Data collected using the GHQ-28 indicated that the overall stress levels of both groups were high, and did not differ significantly by employment status. This may explain why drinking quantity did not differ by employment status. The unemployed did not drink more because they did not experience more stress than their employed counterparts.

The unemployed experienced more cutbacks in spending over the previous three years compared to their employed counterparts ($p<.001$). In an economic framework, the unemployed should have drunk less—consistent with their cutbacks. Although there were fewer drinkers among the unemployed (68% unemployed, 78.5% employed; $p<.01$), differences when classified according to light / moderate and heavy drinking were minimal. Therefore, economic restraint did not appear to lead to decreased drinking among the unemployed drinkers. However, another factor may have confounded the issue by lessening the economic strain for the unemployed. Fewer unemployed people cared for children who were less than sixteen years old ($p<.05$). Therefore the

unemployed may have had more income to spend on alcohol because of a lack of child-rearing responsibilities. However, one is not aware of the degree of economic responsibility that participants had for children older than 16 years.

Demographic variables may have influenced drinking behavior, regardless of employment status. Therefore, any differences in alcohol consumption may have arisen from gender / partnered status, and not employment status per se. More of the unemployed were male and single compared to their employed counterparts. Males tend to drink in higher quantity (Single et al., 1995a) and single status may have meant that more disposable income was available for alcohol. Since both groups were equivalent for age, it was unlikely that this variable accounted for drinking differences between groups. However, differences in total alcohol consumption may have been masked by those people who did not drink because of personal choice. Therefore, analyses were rerun using a subsample of drinkers only.

Employment and General Descriptive Profile of Drinkers

Table 5 provides an employment profile of the drinkers in this study (n=410). Limiting the sample to drinkers did not alter the employment profile. Most (70.5%) drinkers had been employed in the previous year, employment had generally been long term (mean=17.46 years, SD=10.14), and punctuated by periods of unemployment (unemployed 2.27 times in previous year, SD=1.91). Most drinkers were presently unemployed (55.4%). These findings were similar to findings for the overall sample (Table 1).

Table 5

Employment Profile of Drinkers (N=410)

Descriptor	n	(%)	Mean (SD)
Employment Experience			
Paid employment at some time	410	100	
Paid employment in previous year	289	70.5	
Average # years paid employment			17.46 (10.14)
Average # times unemployed in past 5 years			2.27 (1.91)
Present Employment Status			
Employed	183	44.6	
Unemployed	227	55.4	

Limiting the sample to drinkers only did not alter the general sociodemographic profile (Table 6). Gender, partnered status, age, educational level, satisfaction with both life in general and finances were similar to that described for the overall sample (Table 2). Although most participants were partnered, unemployed drinkers were more likely to be male (chi-square=7.09, df=1, $p=.009$) and single (chi-square=5.71, df=1, $p=.021$) compared to employed drinkers. Once again, differences in alcohol consumption may have arisen from gender / partnered status and not employment status per se. Mean age did not differ significantly by employment status ($M=37.21$ years for the employed; $M=38.15$ years for the unemployed). Unemployed drinkers had less formal education ($t=7.88$, $df=407$, $p<.001$), and were less satisfied with both life in general ($t=6.01$, $df=408$, $p<.001$) and their current financial situation ($t=6.76$, $df=408$, $p<.001$) compared to employed drinkers. However, similar to the overall sample (Table 2), both employment groupings were reasonably satisfied ; although more satisfied with life in general than with their current financial situation (Table 6). Basically, limiting the sample to drinkers only did not change either the employment or sociodemographic profile of participants. The influence of these profiles would be similar to that described for the entire sample.

Differences in Alcohol Consumption Patterns of Drinkers by Employment Status

Table 7 describes the alcohol consumption pattern of drinkers by employment status. Although not statistically significant, several trends can be noted among those people who drank. Alcohol consumption patterns were relatively stable over the

Table 6

General Descriptive Profile of Drinkers by Employment Status (N=410)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Gender¹						
Male	93	50.8	145	63.9	238	58
Female	90	49.2	82	36.1	172	42
Partnered Status¹						
Partnered	154	84.2	169	74.4	323	78.8
Single	29	15.8	58	25.6	87	21.2
Age (years)	183	M=37.21 SD=9.32	227	M=38.15 SD=10.20	564	M=38.7 SD=10.09
18 to 30	50	27.3	61	26.9	111	27.1
31 to 39	51	27.9	67	29.5	118	28.8
40 to 50	67	36.6	71	31.3	138	33.7
51 to 66	15	8.2	28	12.3	43	10.5
Years of Education^{2&3}	183	M=12.85 SD=2.82	226	M=10.68 SD=2.73		
Satisfaction with life in general^{2&4}	183	M=5.86 SD=1.21	227	M=4.98 SD=1.65		M=5.37 SD=1.53
Satisfaction with finances^{2&4}	183	M=4.92 SD=1.50	227	M=3.82 SD=1.81		M=4.31 SD=1.76

¹chi-square: $p < .05$; ²t-test: $p < .001$; ³1 response missing; ⁴likert scale range 1 to 7 (1=least satisfied, 7=very satisfied).

Table 7

Alcohol Consumption Patterns of Drinkers by Employment Status (N=410)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Change in Alcohol Pattern Over Past 2 years¹						
Remained the same	127	69.8	135	59.7	262	64.2
Increased	12	6.6	27	11.9	39	9.6
Decreased	43	23.6	64	28.3	107	26.2
Average Frequency of Drinking²						
4-7 times a week	12	6.6	17	7.5	29	7.1
2-3 times a week	34	18.6	47	20.8	81	19.8
Once a week	41	22.4	63	27.9	104	25.4
1-2 times a month	48	26.2	40	17.7	88	21.5
< once a month	48	26.2	59	26.1	107	26.2
Number of Drinks in Past Week³						
	183	M=3.79 SD=7.49	227	M=6.14 SD=10.57		
0	78	42.6	78	34.4	156	38
1-7 (light)	72	39.3	93	41	165	40.2
8-21 (moderate)	26	14.2	42	18.5	68	16.6
22-113 (heavy)	7	3.8	14	6.2	21	5.1

¹2 responses missing; ²1 response missing; ³t=-2.63;p=.01.

previous two years, with 64.2% of drinkers having kept their usual pattern. Of those who changed, most people decreased consumption. More unemployed (28.3%) than employed (23.6%) people reported a decrease in their drinking. Although only 9.6% reported an increase in drinking, more of the unemployed (11.9%) than those employed (6.6%) reported this increase.

More unemployed (56.2%) than employed (47.6%) participants drank at least weekly. Although drinking frequency by employment status was similar, the unemployed tended to drink more frequently than their employed counterparts. The unemployed also drank in higher quantities; whether drinking quantity was reported as a categorical or continuous variable. The unemployed drank more on average (mean 6.14, SD10.57; $p=.01$) compared to the employed (mean 3.79, SD 7.49), but there were large variations in drinking quantity. Statistically significant differences were not identified when participants were categorized as light, moderate, and heavy drinkers.

In the previous week, most of the people who drank were unemployed. More unemployed (24.7%) than employed (18%) people drank moderately to heavily. Yet, as in previous findings (Table 3), overall drinking consumption was rather low; regardless of employment status. Although some drinkers may have compromised their economic status by continuing to drink despite financial difficulties, increased drinking may not necessarily pose a direct health risk. It is more important to consider whether drinking places members at risk for alcohol related problems, and if this risk varies by employment status. Prior literature suggested that alcohol consumption differences by employment status may be most evident in “problem” drinking. Table 8 describes the

Table 8

At-Risk Drinkers by Employment Status¹ (N=410)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Females						
At risk ²	5	5.6	9	11.0	14	8.1
Not at risk	85	94.4	73	89.0	158	91.9
Males						
At risk ³	7	7.5	20	13.8	27	11.3
Not at risk	86	92.5	125	86.2	211	88.7

¹drinkers only; ²more than 7 drinks in previous week; ³more than 14 drinks in previous week.

prevalence of “at-risk” drinking, differentiated by gender, according to the standards of the National Institute on Alcohol Abuse and Alcoholism (Saunders et al., 1993).

Only 8.1% of females and 11.3% of males were at-risk for the development of alcohol related problems according to the above standards set by the National Institute. Unemployed men (13.8%) were at the highest risk for developing alcohol-related problems, followed by unemployed females (11%). Although more unemployed (11%) than employed (5.6%) women were “at-risk”, values did not differ significantly by employment status. Findings were similar for males; where 13.8% of those unemployed and 7.5% of those employed were “at-risk”. Although a greater percentage of the unemployed may abuse alcohol compared to the employed, it cannot be inferred that this is necessarily related to employment status.

Potential Moderating Factors for Alcohol Consumption of Employed and Unemployed Drinkers

Table 9 describes the possible moderators of alcohol consumption for the employed and unemployed drinkers. These possible moderators include stress levels, use of alcohol as a coping mechanism, and financial strain. Only 11% of drinkers reported life as very stressful. The dichotomy in self-reported stress which was found in the overall sample (Table 4) remained when the sample was limited to drinkers only. Unemployed drinkers were more likely than employed drinkers to report *either* that their lives were very stressful or not at all stressful (chi-square=18.69, df=3, p=.000). Employed people were more likely to report mid-range levels of stress. Similar to the

Table 9

Potential Moderators of Alcohol Consumption (of Drinkers) by Employment Status (N=410)

Descriptor	Employed		Unemployed		Total	
	n	(%)	n	(%)	n	(%)
Present Stress Level¹						
Very stressful	11	6.0	34	15.0	45	11.0
Somewhat stressful	99	54.1	113	49.8	212	51.7
Not very stressful	63	34.4	51	22.5	114	27.8
Not at all stressful	10	5.5	29	12.8	39	9.5
Total GHQ Score²	179	M=15.25 SD=8.61	225	M=16.28 SD=9.76	404	M=15.83 SD=9.27
Dicotomized GHQ Score²						
Low stress (≤ 15)						
High stress (>15)	112	62.6	135	60	247	61.1
	67	37.4	90	40	157	38.9
Drink More When Under Stress^{3&4}						
Yes	14	7.7	36	16.1	50	12.3
No	159	87.8	178	79.5	337	83.2
Don't Know	8	4.4	10	4.5	18	4.4
Number of Cutbacks in Spending Over Last 3 Years¹						
0 to 3	116	63.4	96	42.3	212	51.7
4 to 11	67	36.6	131	57.7	198	48.3
Average # cutbacks ⁵	183	M=1.37 SD=.48	227	M=1.58 SD=.50		
Responsibility for Children Less Than 16 Years Old^{3&6}						
Yes	90	49.2	82	36.3	172	42.1
No	93	50.8	144	63.7	237	57.9

¹chi-square: $p < .001$; ²6 responses missing; ³chi-square: $p < .05$; ⁴5 responses missing; ⁵t-test: $p < .001$;

⁶1 response missing.

overall sample, standardized GHQ-28 ratings did not correspond with the categorical stress ratings (those from “not at all stressful” to “very stressful”). GHQ-28 ratings were high (above 15) and did not differ significantly by employment grouping (t-test $p=.266$; MWU $p=.400$).

Those who drink to cope with stress may be most likely to increase drinking when unemployed. More unemployed (16.1%) than employed (7.7%) drinkers felt that they drank more when under stress (chi-square=6.48, $df=2$, $p<.05$).

Economic strain was another possible moderating factor for alcohol consumption. This factor remained basically unchanged when it was analyzed for the drinkers only. As in the overall sample (Table 4), when compared to their employed counterparts, unemployed drinkers made a greater number of cutbacks ($t=-4.40$, $df=408$, $p=.000$) and had less responsibility for children younger than sixteen years of age (chi-square=6.90, $df=1$, $p=.009$) (Table 9). Basically, the results of analyses for the subgroup of drinkers were not much different from that of the overall sample.

Potential Impact of Moderating and Sociodemographic Variables on Alcohol Consumption of Drinkers by Employment Status

More unemployed (16.1%) than employed (7.7%) drinkers identified that they drank more when under stress ($p<.05$). Unemployed drinkers (15%) were more likely than employed drinkers (6%) to report that their lives were very stressful (chi-square $p<.001$). Using a psychological framework, alcohol consumption should have been higher among the unemployed drinkers because these people were more likely to report

the highest stress levels. However, similar to findings in the overall sample, standardized testing with the GHQ-28 indicated that stress levels of both groups were equally high.

There were few differences in either drinking frequency or heavy drinking frequency between the employed and unemployed drinkers. However, unemployed drinkers tended to drink more heavily / more often and had a higher mean alcohol consumption (mean=6.14, SD=10.57) compared to employed drinkers (mean=3.79, SD=7.49; $p<.01$). Although percentages were small, there were more unemployed than employed “at-risk” drinkers. The generally low numbers of heavy drinkers or “at-risk” drinkers meant that further analyses could not be performed because of problems with cell sizes. However, similar to the overall sample ($n=564$), findings from the univariate analyses of drinkers ($n=410$) suggested that there were only small differences in drinking behavior between employment groupings because the unemployed did not experience significantly more stress (as measured by the GHQ-28) than their employed counterparts. Both groups experienced a high level of stress.

Unemployed drinkers experienced more cutbacks over the previous three years compared to their employed counterparts ($p<.001$). In an economic framework, the unemployed should have drunk less --- consistent with their cutbacks. Of those who changed their alcohol consumption in the previous two years, more unemployed (28.3%) than employed drinkers (23.6%) decreased consumption. However, differences were not statistically significant and a review of drinking patterns gave no indication that economic restraint led to decreased consumption among the unemployed drinkers. Similar to the overall sample, fewer unemployed drinkers cared for children who were

less than sixteen years old ($p < .05$). Therefore the unemployed may have had more income to spend on alcohol because of a lack of child-rearing responsibilities.

Finally, gender and partnered status may have had a similar influence on the drinking behavior of this subsample as on the original sample in this study. The higher alcohol consumption among unemployed drinkers may have resulted from a higher percentage of single males in the unemployed drinking group ($p < .05$).

Support for an Economic or a Psychosocial Framework

There was little statistical support for either an economic or a psychosocial framework of alcohol consumption by employment status, either among the total sample or the subsample of drinkers only. Employed participants were more likely to drink alcohol compared to their unemployed counterparts (78.5% versus 68.6% respectively; $p = .009$). Of those drinkers who changed alcohol consumption over the previous two years, more unemployed (28.3%) than employed (23.6%) people reported a decrease in their drinking. These findings provided the only supporting evidence for an economic framework where fewer unemployed people drank because of economic strain. Rather, even though the unemployed experienced more financial cutbacks over the previous three years, they tended to drink more heavily than their employed counterparts (employed mean 2.97, SD 6.82; unemployed mean 4.21, SD 9.20). These findings became statistically significant among the subsample of drinkers (unemployed mean 6.14, SD 10.57; employed mean 3.79, SD 7.49; $p = .01$). There were no other statistically significant drinking differences between the employed and unemployed individuals,

although trends supported a psychosocial framework, where the unemployed drank more because of the psychological strain associated with unemployment. There tended to be more moderate and heavy drinkers among the unemployed, and the unemployed drinkers tended to drink more frequently than their employed counterparts. Although there were few “at-risk” drinkers in this study (8.1% of females and 11.3% of males), the unemployed were the most likely to fall into this category.

Trends supported a psychosocial framework of increased alcohol consumption with the stress of unemployment. Indeed, 16.1% of unemployed drinkers versus 7.7% of employed drinkers felt that they drank more when under stress ($p < .05$). However, matters increase in complexity when one considers the stress level of participants. A psychosocial framework assumes that the unemployed experience more stress than the employed. This did not hold true for participants in this study, and findings suggest that how stress is measured can influence findings. Standardized measures of stress (GHQ-28) did not concur with the other stress ratings of participants. In particular, the GHQ-28 found that both groups experienced a high degree of stress, and that stress levels did not differ by employment grouping (Table 4). There was little evidence to support a psychosocial framework among this sample, who were equally stressed and generally low volume alcohol consumers. Although results did not change when the study sample was limited to drinkers only, supporting evidence for a psychosocial framework is based on trends rather than statistical significance. Additionally, other factors such as increased leisure time among the unemployed, gender, or partnered status could have contributed to an increase in alcohol consumption irrespective of stress levels.

CHAPTER 5

DISCUSSION

The purpose of this study was to compare the drinking habits of a sample of unemployed and employed individuals in Newfoundland communities which had been affected by the cod moratorium. The study contrasted an economic and a psychosocial framework for alcohol use by simultaneously considering the effect of selected variables that may affect alcohol use. These variables included the degree of financial constraint (economic framework), stress level, and the use of alcohol to cope with stress (psychosocial framework). This chapter will discuss key findings from this secondary analysis of data from a larger project on sustainability of cold ocean communities after the closure of the northern cod fishery. It will also compare findings with previous alcohol related research, and provide potential explanations for the results.

Key Findings

While employment status may have influenced the choice to drink, it did not appear to influence either a change in the drinking patterns or the overall alcohol consumption of drinkers in this sample. There was little support for an economic framework of alcohol consumption. Although the unemployed experienced more financial strain over the previous three years compared to their employed counterparts and were less likely to drink alcohol compared to the employed ($p=.009$), economic

restraint did not translate into a significant difference in drinking patterns or less alcohol consumption for the unemployed drinkers.

Rather, this study found that most drinkers kept their usual drinking pattern over the previous two years regardless of employment status. However, of those who changed alcohol patterns, more of the unemployed than employed decreased consumption. Morris et al. (1992) found that the unemployed in their study were more likely to decrease drinking compared to those who remained employed, but attributed this to those who were unemployed because of illness. The physical illness of this sample has not been explored, but due to the nature of the unemployment experience and the random selection process it is unlikely that illness played a significant factor in the present study. Findings of this study concur with Groeneveld et al.'s (1990) investigation with laid-off workers. Similarly, Leino-Arjas et al. (1999) noted a decrease in alcohol consumption with long-term unemployment. These findings contrast with Rowlands and Huws (1995) who found that the unemployed were significantly more likely to report an increase in drinking.

The overall alcohol consumption values in this study were generally consistent and low, regardless of employment status. Weekly mean alcohol consumption was much lower than that of several other research studies (Crawford et al., 1987; Lee et al., 1990; Rowlands & Huws, 1995).

There was minimal support for a psychosocial framework of increased alcohol consumption with unemployment. Generally, any support arose from trends rather than statistical significance. There was no significant difference in alcohol consumption by

employment status in the overall sample. When the sample was limited to drinkers only, most drinkers in the previous week were unemployed ($p=.009$) and the unemployed also drank more on average ($p=.01$). Heavier mean drinking among the unemployed concurs with several other studies (Crawford et al., 1987; Janlert & Hammarstrom, 1992; Lee et al., 1990). While there were large variations in alcohol consumption among respondents in the present study, consumption differences did not remain when drinking was classified as light / moderate / heavy. Other studies have also found a lack of relationship between unemployment and heavy drinking (Hajema & Knibbe, 1998; Morris et al., 1992). Yet, the unemployed in the present study tended to drink more frequently and in greater amounts; whether drinking was considered as a categorical or continuous variable, and whether one considered the overall sample or when limited to drinkers only. These findings concur with several other studies (Layne & Whitehead, 1985; Power & Estaugh, 1990; Lee et al., 1990; Luoto et al., 1998; Rolands & Huws, 1995). Although more unemployed than employed people were at risk for the development of alcohol related problems, results were not statistically significant. Other studies have found that the unemployed were statistically more likely to be at risk for alcohol abuse (Catalano et al., 1993; Fleming et al., 1998; Gomberg et al., 1999). However, Gomberg et al.'s study was conducted with people who were in treatment for alcohol abuse, while Catalano et al.'s and Fleming et al.'s studies were conducted with very large samples ($n=10,534$ and $n=19,372$ respectively). Findings from an alcohol treatment center may not be representative to an average population group, and with large samples even modest relationships are statistically significant (Polit & Hungler,

1995). Findings from the present study indicate that although there may be an increased use of alcohol among the unemployed, the increase is not statistically significant to support a psychosocial framework.

The conceptual framework in this study indicates that financial strain, stress level and the use of alcohol as a coping mechanism are key moderating factors to help explain variations in alcohol consumption upon unemployment. As noted previously, financial strain did not appear to lessen the alcohol consumption of the unemployed. Therefore, using the conceptual framework for this study, one must consider that (a) alcohol consumption may not have been related to employment status in this population or that (b) differences in alcohol consumption may have been masked by either the lack of alcohol use as a coping mechanism or the similarity in stress levels between the two employment groups.

Explanation of Results

Lack of relationship between alcohol consumption and employment status

There is generally a lack of support for either an economic or a psychosocial framework of alcohol consumption with employment status in this study. This lack of support concurs with findings from several previous studies (Hajema & Knibbe, 1998; Hammer, 1992; Iversen & Klausen, 1986; Lahelma et al., 1995; Morris et al., 1992).

Drinking trends in this study suggest that the unemployed may drink more than the employed. However, it is possible that differences could have arisen from a lack of

homogeneity in demographic variables by employment groupings rather than employment status per se. Although employment groupings were similar for age, the unemployed were statistically more likely to be male, single, and lack responsibility for young children; whether considering the overall sample or when the sample was limited to drinkers only. Males generally drink more heavily, single people may have relatively more income to spend on alcohol and less social support to deal with stresses in life, and people (particularly women) with children may drink less because of role responsibilities. However, a lack of responsibility for young children may also mean that relatively more income is available for alcohol. Single et al. (1995 a) found that heavy drinkers were more likely to be single males without financial difficulties who did not attend church. The increased drinking trends among the unemployed could be related to demographic differences and not employment status per se.

Differences in alcohol consumption by employment status masked by limited numbers of “at-risk” drinkers

Differences in alcohol consumption may have been masked by a limited number of “at-risk” drinkers in the sample. The study sample consisted of generally low volume drinkers who did not tend to use alcohol as a coping method for stress. Previous investigations, using the same alcohol measurements as the present study, found much higher mean alcohol consumptions (Crawford et al., 1987: unemployed=22.5 units, employed=18 units; Lee et al., 1990: unemployed=29.8 units, employed=20.7 units; Rowlands & Huws, 1995: unemployed=30.9 units, employed=22.6 units). Perhaps there

were many “at-risk” drinkers in these previous studies, which contributed to such high mean alcohol consumptions and statistically significant findings by employment status. The use of alcohol to relieve the stress associated with unemployment may be most applicable to those people who abuse alcohol (Hammer, 1992; Janlert & Hammarstrom, 1992). This factor may help explain why many associations between unemployment and drinking occur in people who abuse alcohol (Catalano et al., 1993; Fleming et al., 1998; Gomberg et al., 1999; Humphreys et al., 1996). Higher stress may have led more of the unemployed “at-risk” drinkers in these studies to drink heavily.

There were very few “at-risk” drinkers in this sample, regardless of employment status. In total, only 8.1% of females and 11.3% of males were at-risk for the development of alcohol related problems according to the standards set by the National Institute on Alcohol Abuse and Alcoholism. These values are much lower than the prevalence of at-risk drinking in previous studies (Fleming et al., 1998 [20% of men and 19.5% of women]; McNaughton et al., 1998 [20 per cent of adults]). Perhaps there was a lack of differences in alcohol consumption between the employed and unemployment because there were so few “at-risk” drinkers in the study sample.

Cultural influences may have affected the decision to drink to cope with negative emotions (Cahalan, Cisin, & Crossley, 1969). Ornstein (1980) demonstrates that there can be cultural variations in alcohol consumption. Newfoundland has low overall alcohol consumption rates (Federal, Provincial & Territorial Advisory Committee on Population Health [Technical Appendix], 1996; Health & Welfare Canada, 1990). However, it also has the highest percentage of heavy drinkers in Canada (Federal,

Provincial, & Territorial Advisory Committee on Population Health, 1996). In the present study, although more unemployed (16.1%) than employed (7.7%) drinkers felt that they drank more when under stress ($p=.039$), few people drank heavily (6.2% unemployed drinkers; 3.8% employed drinkers). Overall drinking quantity by employment status was light (Tables 3 & 7). Limited numbers of “at-risk” drinkers in this sample may have meant that drinking was not a prominent method of stress reduction by either employment grouping.

Differences in alcohol consumption by employment status masked by similarity of stress levels

Winefield and Fryer (1996) note that using a standardized instrument to measure psychological strain enables researchers to compare results with normative data. Although stress levels were higher among unemployed drinkers, standardized GHQ ratings indicated that there was very little difference in stress levels by employment status. Rather, roughly 40% of participants had a high degree of stress regardless of employment status; whether among the total sample or in the subsample of drinkers only. Similar stress levels may have resulted in similar alcohol consumption values. Findings from this study contrast those of Rowlands and Huws (1995) who also conducted their investigation in an area of job uncertainty. However, Rowlands and Huws found that the unemployed had *both* significantly higher distress levels *and* alcohol consumption levels.

The lack of difference in stress levels in this sample could have arisen from past experience with unemployment, combined with expectations of job loss among those

people who were still employed. It has been suggested that the social and psychological pressures associated with unemployment can change with the duration of unemployment (Dirksen, 1994; Morrell et al., 1998). An economic profile of participants revealed that most people experienced long-term employment, accentuated by periods of unemployment. Such is the nature of seasonal employment. Leino-Arjas et al. (1999) suggest that frequent bouts of unemployment may pose less of a threat to occupational identity than long term unemployment. However, job insecurity (Morrell et al., 1998) and expectations of job loss (Dirksen, 1994) can be associated with psychological complaints among employed people. Perhaps frequent bouts of long-term unemployment, anticipatory grieving related to job insecurity, and changes in communities as a result of the cod moratorium resulted in equal (high) stress among community members regardless of employment status.

Alternatively, not internalizing the unemployment experience may have decreased stress levels of the unemployed to more closely approximate the stress levels among the employed. Lazarus and Folkman (1984) hypothesized that for a situation to be stressful, it must be perceived as posing a threat to the self. As such, stress is context-dependent. It is possible that the chronically high unemployment rate in Newfoundland (accentuated by the closure of the cod fishery) may have assisted in the development of community resilience and the ability to disperse responsibility for lack of work (Banks, 1995; Dirksen, 1994; Warr et al., 1988). However, using Lazarus and Folkman's framework, one would expect lower stress levels in community members. Therefore, the previous explanation of prior experience with long-term unemployment and anticipatory

grieving by employed members remains a more plausible explanation for lack of difference in stress levels for this population. Equal stress by employment status may have resulted in a lack of drinking variation by employment status.

Winton, Heather, and Robertson (1986) list other factors which may help people cope with the stress of unemployment. They suggest that the effects of unemployment may depend on how well the needs met by employment status are satisfied in alternative ways. For example (a) the use of leisure time to promote life satisfaction or (b) high levels of social support may act to moderate the psychological effects of unemployment. Cahalan et al. (1969) describe individual differences in coping mechanisms and hypothesize who may use alcohol to cope with stress. They suggest that people who rely most on social support in times of stress may resort to alcohol only when these supports are not available. Those people who rely most on things or substances (alcohol or medications) to deal with stress may rely on alcohol use for coping only when this pattern is developed (i.e., “problem drinkers”). Finally, self - reliant people who organize their environment to cope with stress, will rarely use alcohol to “escape” from stress. Rather, they will redefine goals or use personal abilities to counteract stress. The impact of a lack of “problem drinkers” in this sample has been previously discussed. Presence of life satisfaction, social support, and self-reliance shall now be considered.

The overall sample and the subsample of drinkers were reasonably satisfied with both their life in general and their financial status. Perhaps the psychological needs of both employment groupings were met equally well at the time of the study. Although more unemployed than employed people classified their life as very stressful, whether

among the overall sample or the subsample of drinkers, overall percentages of *subjective* high stress by employment grouping were rather low. This may indicate that social support and self-reliance were effective measures to counteract stress except in a relatively small group of individuals.

GHQ ratings indicated that stress levels were much higher than in the other self report of stress. Although the validity of the GHQ may be questioned for this sample, it has been a widely accepted measurement of psychological stress (Gage & Leidy, 1991). Participants may have experienced a reporting bias for subjective stress. Reporting bias may have arisen from a self-reliant people who did not wish to admit their level of stress. Alternatively, participants may have lacked an awareness of subjective stress levels. Either explanation results in a people who may not seek professional assistance in dealing with stress. In general, although life satisfaction and social support may have influenced findings, high (GHQ) stress levels within both employment groupings may suggest that life satisfaction was, at best, strained.

Summary

In summary, findings from this study suggest that neither an economic nor a psychosocial framework of alcohol consumption by employment status is supported, and that any differences by employment groupings may have arisen from demographic differences between employment groups. Similar to Groeneveld et al.'s (1990) study, most participants maintained existing alcohol consumption patterns, even with high stress levels. However, this study also identified several factors which may have

influenced results. Specifically, a lack of reliance on alcohol to deal with stress and / or a lack of difference in stress levels by employment grouping could have influenced findings.

Several explanations for a lack of difference in stress level by employment status were posed. These included qualities associated with the unemployment experience such as (a) community resilience / dispersing responsibility for lack of work or (b) having needs generally met by employment status satisfied in alternative ways, combined with high levels of social support. Although the importance of life satisfaction and social support can not be de-emphasized, the low rates of “at-risk” drinkers and high stress levels (regardless of employment status) leads one to conclude that a more probable explanation remained. Perhaps frequent bouts of long-term unemployment, anticipatory grieving related to job insecurity, and changes in communities as a result of the covid moratorium resulted in equal (high) stress among community members, regardless of employment status. Therefore, alcohol consumption did not vary greatly by employment status in this group of people who had frequent episodes of unemployment, were equally stressed according to employment status, and were generally low volume alcohol consumers.

Strengths of Study

The random probability sampling approach meant that findings could be generalized to the Isthmus of Avalon and the Bonavista Headland region. Since all members of the region had an equal opportunity to be selected, researchers were best

able to answer the research questions posed (Young Barhyte, Redman, & Neill, 1990). Both genders were included and those people who may have been voluntarily unemployed were excluded from the study. Analyses were conducted on both the overall population and the subsample of drinkers to ensure that inclusion of abstainers did not make results erroneous.

There was a variety of drinking measurements, using standardized alcohol consumption criteria. Therefore, drinking “more, less, or about the same” and whether one drinks more when under stress could be associated with current drinking quantity. Identification of “at-risk” status according to the National Institute on Alcohol Abuse and Alcoholism standards meant that potential alcohol related problems by employment groupings could be identified. Description of key moderating variables (financial strain, stress, and use of alcohol as a coping mechanism) according to employment status assisted in contextualizing findings to this sample. The use of standardized measurements of stress (GHQ-28) permitted comparison both with other studies and with the perceived stress of participants.

Limitations of Study

The cross-sectional and retrospective nature of this design meant that causal associations between employment status and drinking behavior could not be inferred. Cross-sectional studies cannot determine direction of causation. Alcohol consumption patterns may have more of an influence on employment status rather than the reverse. However, as data were gathered after the closure of the cod fishery and re-employment is

affected by chronically high unemployment rates in this province, it is expected that many people became and remained unemployed regardless of their alcohol consumption patterns. Longitudinal studies using standardized measures of drinking behavior throughout changes in employment status are necessary to further clarify the relationship between unemployment and drinking practices.

Findings can not be generalized to the Newfoundland population. They can only be considered representative for the Bonavista Headland and Isthmus of Avalon regions. Variations in length and frequency of unemployment meant that findings cannot be generalized to the unemployed as a group.

The sample was relatively homogeneous regarding drinking behavior. Alcohol consumption was generally low and most people did not consider alcohol as a method of stress relief. Therefore, differences by employment status were not easily described and analyses were mainly limited to nonparametric statistics. Replication of this study both with high-risk alcohol users and in cultures with greater diversity in drinking behavior is required. This may permit more advanced statistical procedures which can provide a fuller description of who is most at risk of increasing drinking upon unemployment. Findings from this study apply to generally low volume alcohol consumers and where frequent bouts of unemployment are common.

Response rate of the larger eco-research project was somewhat low. There was a 56.77% household response rate. Of those eligible households respondents, 12.42% were not interviewed, either because they were away when the interviewer went to the household or they did not want to be interviewed.

Participants were not asked if their recorded weekly drinking was typical of their alcohol consumption. This is significant because literature suggests that the effects of unemployment on alcohol consumption may be most pronounced for those who drank more heavily prior to unemployment. Although data were not collected around Christmas time, celebrations or other factors may have influenced findings. Additionally, participants may have been reluctant to report drinking (especially heavy drinking) levels in a face-to-face interview.

Although conservative estimates were used to dichotomize GHQ scores, subjective scoring of stress was not reflected in standardized scores. However, the question on stress has been used previously in Canada's Health Promotion Survey. Qualitative description of the nature of psychological distress within the context of employment status would have been useful.

Household income may have been a more reliable indicator of financial strain than the measures used in this study. However, since adequacy of income may also be dependent on family size and since many participants did not reveal family income, combining the number of cutbacks in spending over the past three years provided a reasonable measure of financial strain.

Despite more cutbacks among the unemployed, TAGS as a replacement income and the use of financial savings may have influenced financial satisfaction. Repeat of this study when these resources have been exhausted may reveal different findings. Finally, standardized measures of life-satisfaction and social support may have provided a more objective measure than the likert scale questions which were used.

CHAPTER 6

IMPLICATIONS

This final chapter provides conclusions which can be drawn from this investigation and describes how this study can contribute to improving nursing practice, education and research.

Conclusion

Unemployed drinkers felt that they drank more when under stress compared to those drinkers who were employed. Although trends suggested that the unemployed drank more frequently, in greater quantity, and were more at-risk for the development of alcohol related problems compared to the employed; differences by employment status were small. There may have been no relationship between alcohol consumption and employment status. However, a lack of reliance on alcohol to deal with stress and / or a lack of difference in stress levels by employment grouping could have influenced findings. Lack of reliance on alcohol to deal with stress could have resulted from the presence of social support and life satisfaction. Alternatively, perhaps frequent bouts of long-term unemployment, anticipatory grieving related to job insecurity, and changes in communities as a result of the covid moratorium resulted in equal (high) stress among community members regardless of employment status. The presence of these factors may explain why alcohol consumption did not vary greatly by employment status for this group of people who were generally low volume alcohol consumers.

Implications for Nursing

Practice

The framework for population health (*Strategies for population health: Investing in the health of Canadians*, 1994) indicates that the social / economic environment, physical environment, and health services are broad collective factors which influence both individual coping skills and personal health practices (e.g., drinking). This study demonstrates that any associations between employment status (as the economic environment) and drinking in this population are small.

The social environment, i.e., family and community supports, and individual coping skills within the group may have kept alcohol consumption low. Therefore, there are other ways to cope with stress rather than depending on certain behaviours that may put one's health at risk. Health professionals could encourage the lack of reliance on alcohol to cope with stress. Positive coping methods (e.g., family / community support) should be identified and encouraged. Unhealthy coping mechanisms (e.g., heavy drinking) should be identified and supports put in place for changing these behaviors, regardless of employment status.

There may be one area where consideration of alcohol consumption by employment status is warranted. Although there were generally few "at-risk" drinkers, roughly twice the percentage of unemployed people were at-risk for alcohol related problems. Identification of at-risk drinkers among the unemployed and institution of policies to ensure easy access to rehabilitative health services would be useful.

The lack of consistency between the different measures of stress used is of clinical concern. If GHQ scores were accurate, participants either had a self-reporting bias or were not aware of their high levels of stress. Either explanation may mean that effective methods of stress control or professional assistance for stress-related disorders are not sought. Integration of mental health issues in the overall population rather than just those seeking help is necessary to ensure that primary health care needs are met. An awareness and understanding of community stress levels needs to be identified and explored. High stress levels may be related to both actual and anticipatory job loss. Programs for psychological screening, early detection of problems, referral, and on-site interventions to promote the psychological health of communities are necessary. Interventions would include both crisis intervention and supportive management. These services should be in place regardless of employment status. Community health promotion programs need to be evaluated not only on how well they influence behavioral health risk practices (e.g., alcohol consumption), but also on how well they help people prevent and deal with underlying stress.

It is essential that programs also aim to decrease the social and environmental *sources* of stress, and not just teach individuals how to manage or cope with stressful situations (e.g., unemployment). This is particularly important for reducing stressors that may be beyond individual control (e.g., unemployment) (Israel & Schurman, 1990). Intersectoral collaboration between social services, municipal / provincial / federal political action, and health services are required to ensure that the necessary tools and

supports are in place both to assist those with drinking problems and prevent / treat the stress associated with high levels of community unemployment.

A preventive approach is required to ensure adequate primary, secondary, and tertiary health care for all community members, regardless of employment status. Primary health care strategies would include enhancement of both intrapersonal and interpersonal resources for coping with stressful events. Identification of inner strength / family support as well as practical stress management techniques could prevent stress levels from exceeding personal resources. Secondary health care would include early identification of maladaptive responses to stress through subjective complaints and objective signs and symptoms. Early referral for psychological support is essential. Tertiary health care would include therapeutic stress management interventions within the community and practical assistance (e.g., resume writing) for workers about to loose or who have lost their jobs.

Education

This study underscores the importance of considering more than employment status as a predictor of increased health risk behavior. Employment status must be viewed as but *one* of several broad determinants of health. Health promotion strategies must consider the interaction of broad determinants a basis for population health (*Strategies for population health: Investing in the health of Canadians*, 1994). Nursing education must encourage a holistic view of health, using both a population health framework and individual models to achieve primary health care. Individual coping

skills and personal health practices also contribute to the health of communities.

Individual models can be used to predict and encourage health promotive behaviors; such as the prevention of *individual* at-risk drinking upon unemployment or encouraging healthy mechanisms for coping with stress. Pender's (1996) health promotion model can be used to promote wellness. The Health Belief Model may be more useful when illness avoidance is the main motive for behavior (Pender).

Although not conclusive, it can be surmised that stress was a pervasive response to the community changes associated with the closure of a major industry. This stress affected not only those who lost their jobs but those who may have feared future job-loss and / or loss of a way of life. A great deal of stress was evident, regardless of employment status. However, unemployment was not clearly associated with an increase in drinking as a maladaptive behavioral response to stress in this population group. Nursing education must continue to emphasize the importance of identifying the strengths and stressors of individuals and communities. Population and individual frameworks must be utilized throughout the nursing process to ensure that primary health care needs are met. Employment status did not contribute significantly to increased alcohol consumption in this group of low volume drinkers who, although highly stressed, did not generally consider alcohol as a coping mechanism for stress. In areas where overall alcohol consumption is high, the relationship between unemployment and alcohol use may be different.

Research

Longitudinal studies of other groups with diverse drinking patterns could help describe who (if any) may increase drinking upon unemployment or with other life stressors. It is important to utilize standardized measures of drinking behavior to permit study comparisons. Increased drinking upon becoming unemployed may be most evident among those people who drink to cope with stress prior to unemployment. Therefore, qualitative studies describing life (and drinking pattern change) with changes in employment status among at-risk drinkers would be useful. Drinking patterns during anticipation of employment status change could also be described. It is important that in cross-sectional studies, investigators ask if recorded drinking patterns are typical of alcohol consumption. Research into drinking practices by employment status should include measures of financial strain, stress-level and the use of alcohol as a coping mechanism. These moderators of alcohol consumption can be used to contextualize findings. It is useful to supplement subjective stress levels with standardized measures of stress (e.g., the General Health Questionnaire). Subjective / objective differences can be explored and contextualized with drinking patterns. Action research could be conducted where appropriate interventions are conducted during the research investigation. The use of standardized measures of social support would contribute to investigations since social support has been noted to influence adaptation to stress (Aldwin, 1994; Groeneveld et al., 1990).

Finally, this study was conducted when TAGS was available as an income supplement and families may have had financial savings. Continued outmigration may

mean that less social support is presently available than when this research was initially conducted. A repeat of this study now that TAGS has been discontinued, savings perhaps depleted, and accounting for any further changes to the social support mechanisms could reveal different findings.

Summary

A review of the literature reveals no clear association between employment status and alcohol consumption. An economic model suggests that alcohol consumption will decrease upon unemployment because of economic restraint. A psychosocial model suggests that alcohol consumption will increase because of the stress associated with unemployment. This study compared a variety of alcohol consumption measures by employment status. It also measured three possible moderating variables for alcohol consumption; financial strain, stress level, and self-reported drinking to cope with stress. Consideration of these variables permitted contextualization of findings.

There were few differences in alcohol consumption by employment status, whether in the initial sample or in the subsample of drinkers only. Differences generally arose from trends rather than statistical significance, and may have arisen because of demographic differences by employment grouping. There was minimal support for an economic model and little support for a psychosocial framework of alcohol consumption. However the psychosocial relationship may have been masked by either a limited number of “at-risk” drinkers or a similarity in stress levels by employment status.

A variety of factors which may have resulted in similar stress levels by employment status were explored. Explanations included (a) prior experience with unemployment (b) anticipatory grieving by employed members (c) having needs generally met by employment status satisfied in alternative ways and (d) high levels of social support among unemployed members. Equalized stress levels may have resulted in uniform drinking patterns among employed and unemployed individuals. Future research among samples with more variation in drinking patterns is required to further explore this issue.

REFERENCES

- Aldwin, C. M. (1994). *Stress, coping, and development: An integrative perspective*. New York, NY: The Guilford Press.
- Banks, M. H. (1995). Psychological effects of prolonged unemployment: Relevance to models of work re-entry following injury. *Journal of Occupational Rehabilitation*, 5, 37-53.
- Brenner, M. H. (1975). Trends in alcohol consumption and associated illnesses. Some effects of economic changes. *American Journal of Public Health*, 65, 1279-1292.
- Cahalan, D., Cisin, I. H., & Crossley, H. M. (1969). *American drinking practices: A national study of drinking behavior and attitudes*. New Brunswick, NJ: Rutgers Center of Alcohol Studies.
- Canadian Center on Substance Abuse. (1999). Canadian Profile 1999 Alcohol: Highlights [On-line 99-10-25]. Available: <http://www.ccsa.ca/cp99alc.htm>
- Cappell, H. & Greeley, J. (1987). Alcohol and tension reduction: An update on research and theory. In H. T. Blane & K. E. Leonard (Eds.), *Psychological theories of drinking and alcoholics* (pp. 15-54). New York: Guilford Press.
- Catalano, R., Dooley, D., Wilson, G., & Hough, R. (1993). Job loss and alcohol abuse: A test using data from the Epidemiologic Catchment Area Project. *Journal of Health and Social Behavior*, 34, 215-225.
- Centre for Health Information. (March, 2000). *Community and integrated health boards health status report 1993-1998*. St. John's: Newfoundland and Labrador Centre for Health Information.
- Charles, N. & Walters, V. (1994). Women's health: Women's voices. *Health and Social Care in the Community*, 2, 329-338.
- Cookfair, J. M. (1996). *Nursing care in the community* (2nd ed.). St. Louis, MO: Mosby Year Book Inc.
- Crawford, A., Plant, M. A., Kreitman, N., & Latcham, R. W. (1987). Unemployment and drinking behavior: Some data from a general population survey of alcohol use. *British Journal of Addiction*, 82, 1007-1016.
- Dirksen, M. E. (1994). Unemployment: More than the loss of a job. *AAOHN Journal*, 42, 468-476.

- Dooley, D., Catalano, R., & Hough, R. (1992). Unemployment and alcohol disorder in 1910 and 1990: Drift versus social causation. *Journal of Occupational and Organizational Psychology*, 65, 277-290.
- Dooley, D. & Prause, J. (1998). Underemployment and alcohol misuse in the national longitudinal survey of youth. *Journal of Studies on Alcohol*, 59(6), 669-680.
- Dootson, S. (1995). An in-depth study of triangulation. *Journal of Advanced Nursing*, 22, 183-187.
- Ettner, S. L. (1997). Measuring the cost of a weak economy: Does unemployment lead to alcohol abuse? *Social Science Medicine*, 44, 251-260.
- Federal, Provincial and Territorial Advisory Committee on Population Health. (1996). *Report on the health of Canadians*. Prepared for the meeting of the Ministers of Health, Toronto, ON, September 10-11, 1996. Ottawa, ON: Minister of Supply and Services Canada.
- Federal, Provincial and Territorial Advisory Committee on Population Health (Technical appendix). (1996). *Report on the health of Canadians*. Prepared for the meeting of the Ministers of Health, Toronto, ON, September 10-11, 1996. Ottawa, ON: Minister of Supply and Services Canada.
- Fisheries and Oceans, Task Force on Incomes and Adjustment in the Atlantic Fishery. (1993). *Charting a new course: Towards the fishery of the future*. Ottawa, ON: Author.
- Fleming, M. F., Manwell, L. B., Barry, K. L., & Johnson, K. (1998). At-risk drinking in an HMO primary care sample: Prevalence and health policy implications. *American Journal of Public Health*, 88, 90-92.
- Gage, L. W. & Leidy, N. K. (1991). Screening for psychosocial distress: Implications for prevention and health promotion. *Public Health Nursing*, 8, 267-274.
- Gien, L. T. (2000). Land and sea connection: The east coast fishery closure, unemployment and health. *Canadian Journal of Public Health*, 91(2), 121-124.
- Gien, L., & Solberg, S. (1995). [Economic uncertainty, health and sustainability in coastal communities in Newfoundland]. Unpublished raw data.
- Goldberg, D. P. & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine*, 9, 139-145.

- Goldberg, D. & Williams, P. (1991). *A user's guide to the General Health Questionnaire*. UK. The NFER-Nelson Publishing Company.
- Gomberg, E. S. L., Siefert, K., & de la Rosa, I. A. (1999). Nonfamilial roles of alcoholic women in treatment. *Women & Health*, 29(1), 73-88.
- Groeneveld, J., Shain, M., & Simon, J. (1990). *Unemployment, alcohol, and drugs: A contextual study*. Toronto: Alcoholism and Drug Addiction Research Foundation.
- Hajema, K. J. & Knibbe, R. A. (1998). Changes in social roles as predictors of changes in drinking behavior. *Addiction*, 93(11), 1717-1727.
- Hammer, T. (1992). Unemployment and use of drug and alcohol among young people: A longitudinal study in the general population. *British Journal of Addiction*, 87, 1571-1581.
- Health and Welfare Canada. (1990). *Canada's health promotion survey 1990 technical report*. Ottawa: author.
- Humphreys, K., Moos, R. H., & Finney, J. (1996). Life domains, alcoholics anonymous, and role incumbency in the 3-year course of problem drinking. *The Journal of Nervous and Mental Disease*, 1996, 475-481.
- Israel, B. A. & Schurman, S. J. (1990). Social support, control, and the stress process. In K. Glanz, F. M. Lewis, & B. K. Rimer (Eds.), *Health behavior and health education: Theory, research, and practice: the Jossey-Bass health series* (pp.187-215). San Francisco, Calif.: Jossey-Bass.
- Iversen, L. & Klausen, H. (1986). Alcohol consumption among laid-off workers before and after closure of a Danish ship-yard: A 2-year follow-up study. *Social Science Medicine*, 22, 107-109.
- Jahoda, M. (1981). Work, employment and unemployment: Values, and approaches in social research. *American Psychologist*, 36, 184-191.
- Janlert, U., & Hammarstrom, A. (1992). Alcohol consumption among unemployed youths: Results from a prospective study. *British Journal of Addiction*, 87, 703-714.
- Jin, R. L., Shah, C. P., & Svoboda, T. J. (1995). The impact of unemployment on health: A review of the evidence. *Canadian Medical Association Journal*, 153, 529-540.

- Joelson, L. & Wahlquist, L. (1987). The psychological meaning of job insecurity and job loss: Results of a longitudinal study. *Social Science Medicine*, 25, 179-182.
- Kimchi, J., Polivka, B., & Stevenson, J. S. (1991). Triangulation: Operational definitions. *Nursing Research*, 40, 364-366.
- Lahelma, E., Kangas, R., & Manderbacka, K. (1995). Drinking and unemployment: Contrasting patterns among men and women. *Drug and Alcohol Dependence*, 37, 71-82.
- Layne, N. & Whitehead, P. (1985). Employment, marital status and alcohol consumption of young Canadian men. *Journal of Studies on Alcohol*, 46, 538-540.
- Lazarus, R. S. & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Lee, A. J., Crombie, I. K., Smith, W. C. S., & Tunstall-Pedoe, H. (1990). Alcohol consumption and unemployment among men: The Scottish Heart Health Study. *British Journal of Addiction*, 85, 1165-1170.
- Leino-Arjas, P., Liira, J., Mutanen, P., Malmivaara, A., & Matikainen, E. (1999). Predictors and consequences of unemployment among construction workers: Prospective cohort study. *BMJ*, 319 (7210), 600-605.
- Lester, D. (1996). Unemployment and Alcohol Consumption. *Psychological Reports*, 79, pp. 150.
- Luoto, R., Poikolainen, K., & Uutela, A. (1998). Unemployment, sociodemographic background and consumption of alcohol before and during the economic recession of the 1990s in Finland. *International Journal of Epidemiology*, 27, 623-629.
- Lynge, E. & Andersen, O. (1997). Unemployment and cancer in Denmark, 1970-1975 and 1986-1990. *International Agency for Research on Cancer Scientific Publications*, (138), 353-359.
- McNaughton, S., Sauve, L., Ashmore, J., & Robson, E. (1998). Drinking decisions an innovative approach to problem drinking. *The Canadian Nurse*, 94, 26-29.
- Mitchell, E. S. (1986). Multiple triangulation: A methodology for nursing science. *Advances in Nursing Science*, 8 (3), 18-26.

- Morrell, S. L., Taylor, R. J., & Kerr, C. B. (1998). Unemployment and young people's health. *MJA*, 168 (5), 236-240.
- Morris, J. K., Cook, D. G., & Shaper, A. G. (1992). Non-employment and changes in smoking, drinking, and body weight. *BMJ*, 304, 536-541.
- Munro, B. H. (1997). *Statistical methods for health care research* (3rd ed.). Philadelphia: Lippincott-Raven Publishers.
- National Institute on Alcohol Abuse and Alcoholism. (1995). *The physician's guide to helping patients with alcohol problems* (NIH Publications No. 95-3769). Washington, DC: US Dept of Health and Human Services, Public Health Service.
- Ommer, R. (1998). *Final report of the eco-research project "sustainability in a changing cold-ocean environment"*. St. John's, NF: Memorial University of Newfoundland, Institute of Social and Economic Research.
- Ornstein, S. I. (1980). Control of alcohol consumption through price increases. *Journal of Studies on Alcohol*, 41, 807-818.
- Peirce, R. S., Frone, M. R., & Russell, M. (1994). Relationship of financial strain and psychosocial resources to alcohol use and abuse: The mediating role of negative affect and drinking motives. *Journal of Health and Social Behavior*, 35, 291-308.
- Pender, N. (1996). *Health promotion in nursing practice* (3rd ed.). Stamford, CT: Appleton & Lange.
- Polit, D. & Hungler, B. (1995). *Nursing research: Principles and methods* (5th ed.). Philadelphia: J. B. Lippincott.
- Power, C, & Estaugh, V. (1990). Unemployment and drinking in early adulthood: A longitudinal perspective. *British Journal of Addiction*, 85, 487-494.
- Robinson, W. S. (1950). Ecological correlations and the behavior of individuals. *American Sociological Review*, 15, 352-357.
- Rowlands, P., & Huws, R. (1995). Psychological effects of colliery closures. *International Journal of Social Psychiatry*, 41, 21-25.
- Saunders, J. B., Aasland, O. G., Amundsen, A., & Grant, M. (1993). Alcohol consumption and related problems among primary health care patients: WHO collaborative project on early detection of persons with harmful alcohol consumption. *Addiction*, 88, 349-362.

- Single, E. W., Brewster, J. M., MacNeil, P., Hatcher, J., & Trainor, C. (1995 a). The 1993 general social survey 1: Alcohol use in Canada. *Canadian Journal of Public Health*, 86, 397-401.
- Single, E. W., Brewster, J. M., MacNeil, P., Hatcher, J., & Trainor, C. (1995b). The 1993 general social survey 11: Alcohol problems in Canada. *Canadian Journal of Public Health*, 86, 402-407.
- Single, E., Robson, L., Xie, X., & Rehm, J. (1996). The costs of substance abuse in Canada: A cost estimation study. Ottawa, ON: Canadian Center on Substance Abuse. (ISBN 1-896323-18-9)
- Statistics Canada. (1992). Profile of census divisions and subdivisions in Newfoundland, part A. Ottawa, ON: Supplies and Services Canada. 1991 Census of Canada. Catalogue number 95-301.
- Statistics Canada. (1997). National population health survey 1994-95. Ottawa: Statistics Canada.
- Statistics Canada. (1999). *Canada year book*. Ottawa: Minister responsible for Statistics Canada. Cat. No. 11-402-XPE.
- Stephens, T. & Graham, D. F. (Eds.). (1990). *Canada's health promotion survey 1990 technical report*. Ottawa: Health and Welfare Canada.
- Story, K. & Smith, B. (1995). *No fish everywhere: The Atlantic groundfish moratoria and community viability in Newfoundland*. Unpublished manuscript, Memorial University of Newfoundland at St. John's.
- Strategies for population health: Investing in the health of Canadians*. (1994). Health Canada: Minister of Supply and Services. Cat. No. H39-3161 1994E.
- Svensson, P. (1987). International social and health policies to prevent ill health in the unemployed: The world health organization perspective. *Social Science and Medicine*, 25, 201-204.
- Walters, V. (1992). Women's views of their main health problems. *Canadian Journal of Public Health*, 83, 371-374.
- Warr, P., Jackson, P., & Banks, M. (1988). Unemployment and mental health: Some British studies. *Journal of Social Issues*, 44, 47-68.

- Wilsnack, R. W., & Wilsnack, S. C. (1992 Apr). Women, work, and alcohol: Failures of simple theories. *Alcohol Clinical Exp Research*, 16(2), 172-179.
- Wilson, S. H., & Walker, G. M. (1993). Unemployment and health: A review. *Public Health*, 107, 153-162.
- Winefield, A. H., & Fryer, D. (1996). Some emerging threats to validity of research on unemployment and health. *Australian Journal of Social Research*, 2, 115-128.
- Winefield, A. H., Tiggemann, M., & Winefield, H. R. (1991). The psychological impact of unemployment and unsatisfactory employment in young men and women: Longitudinal and cross-sectional data. *British Journal of Psychology*, 82, 473-486.
- Winton, M., Heather, N. & Robertson, I. (1986). Effects of unemployment on drinking behavior: A review of the relevant evidence. *The International Journal of the Addictions*, 21, 1261-1283.
- Young Barhyte, D., Redman, B. K., & Neill, K. M. (1990). Population or sample: Design decision. *Nursing Research*, 38, 309-310.

Appendix A**Selected Portions of Health Questionnaire**

ECO RESEARCH - HEALTH SURVEY

1995

***ECONOMIC UNCERTAINTY, HEALTH AND SUSTAINABILITY IN COASTAL
COMMUNITIES IN NEWFOUNDLAND***

1. Interviewer's Name: _____
2. Date of Interview: _____
3. Time Interview Began: _____
4. Community: _____
5. Subject ID: _____

file. Ecores.re

NOTE: Contains questions used in the current study

First of all I would like to ask you some information about your household.

1. c. How many are under 16 years? _____
2. Starting with yourself, I would like to list the members of your household, their relationship to you, their age, sex and their usual occupation, i.e., what they usually do
(Names are not necessary)

<u>RELATIONSHIP</u>	<u>AGE</u>	<u>SEX</u>	<u>USUAL OCCUPATION</u>
---------------------	------------	------------	-------------------------

#1 Respondent _____

3. What is your current marital status? **(READ)**

now married and living with spouse	1
common-law relationship/live-in partner	2
divorced	3
separated	4
widowed	5
never married (single)	6
4. a. At the present time, are you mainly: **(READ)**

employed full-time, i.e., work 30 hours or more a week?	1 (GO TO b)
employed part-time?	2 (GO TO b)
unemployed? (looking for a job)	3 (GO TO 5)
retired?	4 (GO TO 5)
keeping house?	5 (GO TO 5)
a student?	6 (GO TO 5)
retraining?	7 (GO TO 5)

6. (Please turn to page 1 of the answer booklet)

For the next items, please respond on a scale of "1" to "7" where "1" is Very Dissatisfied and "7" is Very Satisfied and you can choose any number between "1" and "7".

How satisfied are you with:

	very dissatisfied					very satisfied		DK	NA
a. your life in general?	1	2	3	4	5	6	7	8	9
i. your finances	1	2	3	4	5	6	7	8	9

13. a. Would you describe your life as presently (**READ**):
- | | |
|----------------------------|-----------------------|
| very stressful | 1 (GO TO b) |
| somewhat stressful | 2 (GO TO b) |
| not very stressful | 3 (GO TO 14) |
| not at all stressful | 4 (GO TO 14) |

NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT ALCOHOL CONSUMPTION.

When we use the word drink it means:

One bottle of beer or glass of draft beer

One glass of wine and sherry

One shot or mixed drink with hard liquor

18. a. In the past 12 months have you taken a drink of beer, wine, liquor, or other alcoholic beverage:
- | | |
|-----------|-----------------------|
| yes | 1 (Ask b) |
| no | 4 (GO TO 19) |
- b. In the past 12 months, how often on average did you drink alcohol? Was it . . . (**READ**)
- | | |
|--|---|
| every day? | 1 |
| 4-6 times a week | 2 |
| 2-3 times a week? | 3 |
| once a week? | 4 |
| once or twice a month? | 5 |
| less often than once a month? | 6 |
- c. In the past 7 days, starting with yesterday, how many drinks did you have each day? (**Start with whatever day yesterday was**):
- | | |
|-----------------|------------------|
| Sunday? _____ | Monday? _____ |
| Tuesday? _____ | Wednesday? _____ |
| Thursday? _____ | Friday? _____ |
| Saturday? _____ | |
- d. In the past two years would you say your drinking? (**READ**):
- | | |
|--------------------------------|---|
| increased <u>greatly</u> | 1 |
| increased somewhat | 2 |
| stayed the same | 3 |

- decreased somewhat 4
 decreased greatly 5

e. Do you drink more when under stress?

- yes 1
 no 2
 don't know 3

THE NEXT QUESTIONS ARE ABOUT YOUR PAID EMPLOYMENT

36. a. In total how many years have you had paid employment? (Including contractual work) _____

b. In the last 5 years how many times have you been unemployed (i.e., receiving UIC and looking for work)? _____

38. a. Have you had employment at any time during the past 12 months?

- yes 1 (GO TO 38. b)
 no 2 (GO TO 44)

44. During the past three years have you (or your family) had to make cutbacks in spending in any of the following items: **(READ)**

	Yes	No	N.A.
a. household expenses	1	2	3
b. clothing/personal expenses	1	2	3
c. entertainment	1	2	3
d. vacations	1	2	3
e. eating out	1	2	3
f. religious/charitable donations	1	2	3
g. financial aid to relatives	1	2	3
h. transportation	1	2	3
i. use of medical services (i.e., dental care, eye care, buying medications)	1	2	3
j. groceries	1	2	3

THE NEXT QUESTIONS ARE FOR THOSE WHO ARE CURRENTLY UNEMPLOYED

45. How long have you been without a job and looking for one? _____ weeks

48. Do you believe any of the following would help you improve your health and well-being? **(READ)**

	Yes	No	DK	NA
j. cutting down on drinking	1	2	3	4

51. In total, how many years schooling do you have? This includes the total of grade school, high school, vocational, technical, and university

_____ YEARS

Appendix B**Studies Which Examined the Influence of Employment Status on Alcohol
Consumption Patterns**

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Brenner (1975)	T 1941- 1967	National U.S. population	Hospital admission rates for psychosis with alcoholism	Negative correlation between unemployment index and first admissions to hospitals for both (a) psychosis with alcoholism (1948-1965) (b) all alcohol related mental disorders (1941-1967)
Layne & Whitehead (1985)	C	Subpopulation of Canadian fitness survey (males only) (n=3430) aged 15-29 years	Heavy drinking = consuming 6 or more standard drinks at one time	Unemployed men had the highest percentage of heavy drinkers compared to employed or student heavy drinkers.
Iversen & Klausen (1986)	L	Convenience sample of laid-off Danish shipyard workers (n=88)	Stated only as "daily alcohol consumption"	Reductions in alcohol consumption among the unemployed but findings not statistically significant ($p < 0.1$).

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Crawford et al. (1987)	C	Random (sub)sample of 18-65 year old males during increasing levels of mass unemployment in Britain (n=941 employed; n=87 unemployed)	<ul style="list-style-type: none"> - weekly drinking frequency - weekly means - variety of drinking problems 	<ul style="list-style-type: none"> - No significant difference between employment groups for frequency of, or mean alcohol consumption - Among subsample who drank in previous week; mean alcohol consumption was highest for those unemployed and a variety of drinking problems were more frequent among the unemployed ($p<0.05$).
Power & Estaugh (1990)	L	Secondary analysis of all people in Great Britain born March 3-9, 1958 with follow-up at age 16 and again at age 23 (n=14,496)	<ul style="list-style-type: none"> - weekly drinking frequency - weekly means - heavy drinking (at 23 years)= drinking at least once a week and consuming 20+ units (women), 35+ units (men) in the previous week. 	<p>Findings were significant for males only:</p> <ul style="list-style-type: none"> - duration of unemployment was positively associated with current heavy drinking ($p<0.001$). - Higher risk of heavy drinking among those unemployed for longer than 6 months compared to those who were never unemployed or unemployed for ≤ 6 months (OR=1.38; CI 1.14-1.64).

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Groeneveld et al. (1990)	C	Convenience sample of unemployed people in an Ontario Community after the 1982 recession (n=191)	<ul style="list-style-type: none"> - drinking frequency and quantity - reported consumption change since unemployment. 	<ul style="list-style-type: none"> - On an aggregate level people drank less frequently and in lesser amounts when unemployed. Significance levels were not provided for changes. - On an individual basis; 53.1% of people did not change, 33.9% decreased and 13% increased consumption pattern upon unemployment.
Lee et al. (1990)	C	Subpopulation of Scottish Heart Health Study. Males aged 40 -59 years (n=4649).	<ul style="list-style-type: none"> - moderate drinking= 21-50 units per week - heavy drinking= >50 units per week - binge drinking= >14 units alcohol per day 	<ul style="list-style-type: none"> - Although more of the unemployed did not drink in the previous week, there were more moderate and heavy drinkers among the unemployed. Significance values were not provided. - Of those who drank in the previous week, mean alcohol consumption was higher among the unemployed (29.8 units) compared to the employed (20.7 units) ($p<0.001$). Binge drinking was more common among the unemployed (58.8%) compared to the employed (33.5%) ($p<0.0001$).

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns				
AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Hammer (1992)	L (5 yrs.)	Stratified random national sample of youth ages 17-20 years (n=2000)	- per annum consumption of pure alcohol	- Although initially noted that men with periods of unemployment drank more alcohol than those who remained employed (eta 0.11), these findings did not remain when regression analyses controlled for prior drinking behaviour and income levels. - Alcohol consumption was not affected by the interaction of anxiety and unemployment status for men or women.
Janlert & Hammarstrom (1992)	L (5 yrs.)	Sixteen year olds at initial interview (n=1083)	- per annum consumption of pure alcohol - heavy drinking: women: >2cl of pure alcohol per day men: >3.5 cl pure alcohol per day	- Alcohol consumption was twice as high among those with long-term unemployment compared to those employed or unemployed for a short time. Mean alcohol consumption levels continued to increase with duration of unemployment ($p<0.001$), but females unemployed for longer than 20 weeks tended to decrease their consumption.

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Morris et al. (1992)	L (5 yrs.)	Subsample of British regional heart study. Males aged 40-59 years (n=6057) who were continuously employed before initial screening.	- weekly alcohol consumption - classified as non-drinker, occasional drinker (<1 unit), light drinker (1-15 units), moderate drinker (16-42 units) and heavy drinker (>42 units).	- No differences in percentage of heavy drinkers or percentages of drinkers reducing alcohol consumption by employment grouping. No evidence that people began drinking more upon unemployment.
Catalano et al. (1993)	L (1 yr.)	Subsample of a larger study describing major mental disorders in 5 U.S. cities (n=10,534). All participants were employed at the initial interview.	Diagnostic Interview Schedule (DIS) measured alcohol related disorder (alcohol abuse and / or dependence).	- Being unemployed increased the likelihood of alcohol disorder, even when controlling for previous disorder (odds ratio=2.79, S. E.=.55).

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Peirce et al. (1994)	C	Secondary analysis of random sample investigating stress processes. All participants had drunk alcohol in previous year (n=1424)	<ul style="list-style-type: none"> - alcohol quantity - drinking frequency - frequency of heavy drinking - frequency of drinking to cope with negative emotions - total number of alcohol problems 	Although not specifically investigating employment status, investigators found that financial strain was positively related to depression. In turn, depression positively influenced drinking to cope with negative emotions. Drinking to cope with negative emotions was positively related to alcohol consumption and alcohol problems.
Rolands & Huws (1995)	C	Convenience sample of laid-off colliery workers (male) (n=248) compared to employed (male) colliery workers (n=91). Respondents were 18-59 years old.	<ul style="list-style-type: none"> - total weekly alcohol consumption - report of increase in recent drinking - consumption of more than 21 units of alcohol per week 	- Unemployed respondents had (a) higher mean levels of psychological distress ($p<0.001$), (b) a greater total weekly alcohol consumption ($t=2.62$, $p<0.01$), (c) an increase in recent drinking ($p<0.01$) and (d) more heavy drinkers compared to the employed respondents ($p<0.02$).

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Lahelma et al. (1995)	L (1 yr.)	Random sample of 25 to 49 year olds who were initially seeking work and compared to subset who were subsequently reemployed (n=703).	<ul style="list-style-type: none"> - drinking frequency - occurrence of intoxication - health problems associated with drinking 	<ul style="list-style-type: none"> - Neither frequency of drinking or intoxication was associated with employment status. - Although not statistically significant, there was a tendency for employed women to report more frequent intoxication than unemployed women whereas unemployed men tended to report more frequent intoxication than employed men.
Lester (1996)	T 1950-1972	Nine national samples	Per capita alcohol consumption	Unemployment rates were negatively associated with per capita alcohol consumption in eight of the nine national samples. Canada was the only nation to demonstrate a positive correlation.

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Ettner (1997)	C	Respondents to Alcohol Supplement of National Health Interview and were between the ages of 18 to 64 years (n=32,012).	<ul style="list-style-type: none"> - average daily consumption of ethyl alcohol - number of symptoms related to alcohol dependence 	<ul style="list-style-type: none"> - Unemployed drank less alcohol and experienced fewer dependence symptoms. - When participants were classified as seeking work (as opposed to not working for pay), unemployment was found to (a) increase overall alcohol consumption and (b) reduce dependence symptoms for job seekers.
Dooley & Prause (1998)	L (5 yrs.)	Subsample of the U.S. National Longitudinal Survey of Youth (1984-85 and 1988-89). The core sample was available over the four years, and were initially employed in both pairs of years (n=2441)	Alcohol misuse: <ul style="list-style-type: none"> - number of alcohol symptoms in the year prior to the interview. - heavy drinking = the number of times consumed > 5 drinks per occasion in the previous 30 days 	<ul style="list-style-type: none"> - In year one of the study, more alcohol symptoms were experienced by those core sample members who became unemployed (OR=2.21, CI 1.23-3.97, p<.05). Heavy drinking was not associated with employment status. - By the final study year, employment status was not related to either alcohol symptoms or heavy drinking in the core sample.

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Fleming et al. (1998)	C	Convenience sample of 22 primary care practices in the U.S. Participants were between the ages of 18-60 years (n=19,372)	- at-risk drinking: women: >7 drinks per week men: >14 drinks per week; - binge drinking= 6 or more drinks per occasion	Men, current smokers, and those who were single, retired, or unemployed were more likely to be at-risk drinkers. Odds ratio for at-risk drinking by unemployment status was 1.52, 95% CI=1.33, 1.71.
Hajema & Knibbe (1998)	L (9 yrs.)	Stratified sample by sex, age and region from a province in the Netherlands. Participants were aged 16-69 years at first measurement (n=1,327).	-mean (4 day) alcohol consumption - frequency of heavy drinking (6 or more glasses of alcohol on one occasion).	Employment status was not associated with changes in alcohol consumption or incidence of heavy drinking.

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Luoto et al. (1998)	C	<p>All 18-64 year olds who responded to random National Public Health Institute questionnaires in Finland; 1982-1995 (n=44,391).</p> <p>- Two periods were analyzed (a) 1982-1990 (4-5% unemployment rate) and (b) 1991-1995 (13-19% unemployment rate)</p>	<p>- weekly mean consumption</p> <p>- upper consumption drinking: men >7 drinks in previous week; women >4 drinks in previous week</p>	<p>- Univariate analyses found that unemployed single males (aged 18-44 years) and unemployed divorced women (aged 25-34 years) drank more heavily than their employed counterparts ($p<.05$ for each group).</p> <p>- More unemployed people were upper consumption level drinkers, regardless of gender ($p<.001$).</p> <p>- Multivariate findings suggested that unemployment was associated with only upper consumption level drinking (and only during the recession).</p>

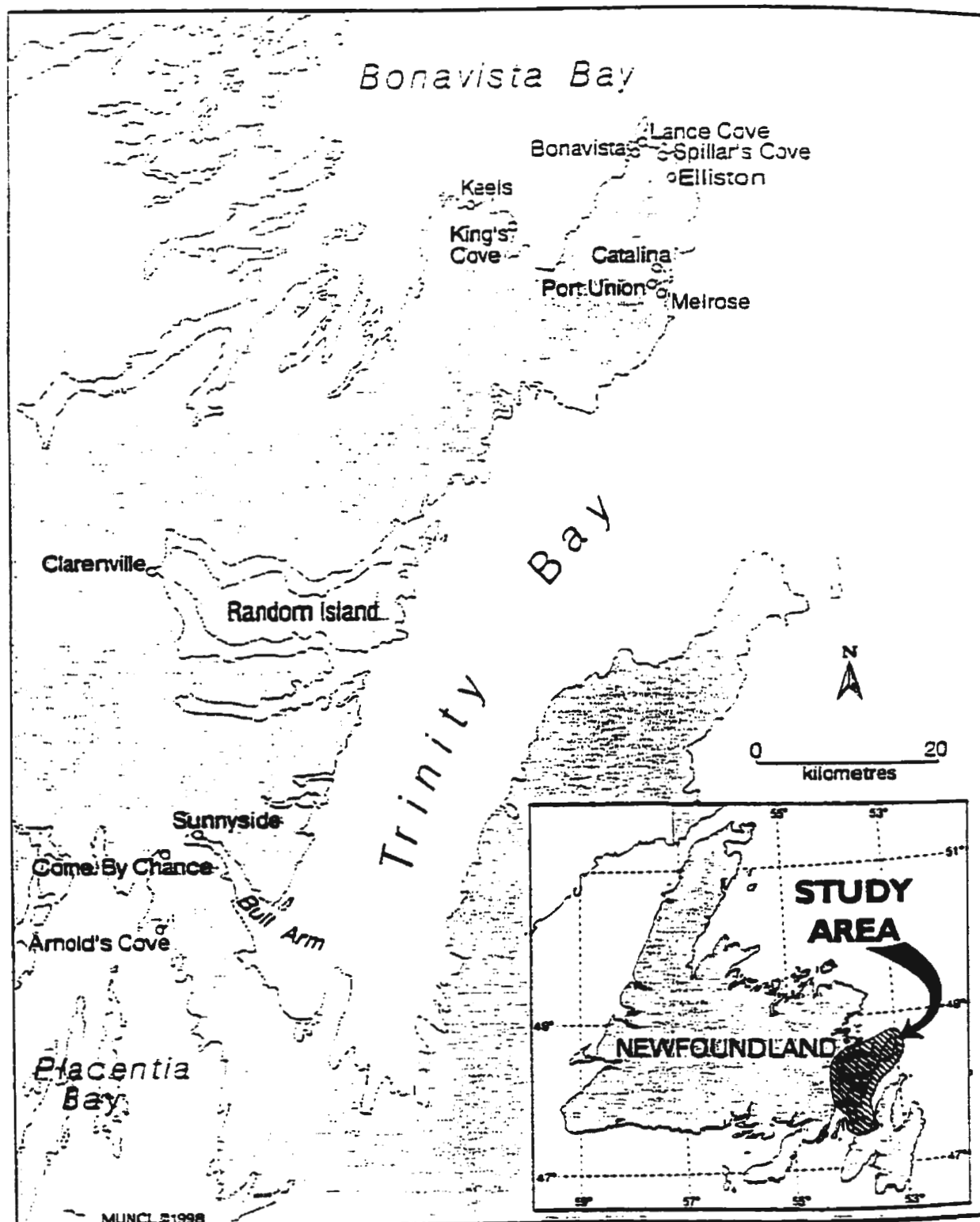
T= time-series aggregate level; C= cross-sectional; L= longitudinal

Table 1: Studies Which Examined the Influence of Employment Status on Alcohol Consumption Patterns

AUTHOR (YEAR)	DESIGN	SAMPLE	MEASURES OF ALCOHOL CONSUMPTION	FINDINGS
Gomberg et al. (1999)	C	Convenience sample of females from 21 alcoholism treatment centers (n=301) matched with a control group of non-alcoholic females (n=137).	- whether participant had history of alcohol abuse or not	Participants in alcohol treatment centers were less likely to be working outside the home (55.2%) compared to the control group (76.7%) (p=0.001).
Leino-Arjas et al. (1999)	L (4 yrs.)	Male construction workers in Finland who at the study onset were employed, between the ages of 40-59 years and who did not retired during the study (n=586)	- alcohol consumption index calculated as absolute alcohol in g / day	Long-term unemployment (more than 24 months) during follow-up was associated with a decrease in alcohol consumption and more reported stress symptoms compared to all other participants.

T= time-series aggregate level; C= cross-sectional; L= longitudinal

Appendix C
The Study Area



Map 1: The Study Area

Appendix D**Letter of Permission from Statistics Canada**



Statistics Canada
Atlantic Region

1770 Market Street
3rd. Floor
Halifax, Nova Scotia
B3J 3M3

Statistique Canada
Région de l'Atlantique

1770, rue Market
3^e étage
Halifax (Nouvelle-Écosse)
B3J 3M3

17 January, 1995

Dr. Lan Gien
School of Nursing
Memorial University of Newfoundland
St. John's, NF
A1B 3V6

Dear Dr. Lan Gien:

This letter is to certify that the surveys: Health Status of Canadians, 1991, and Canada's Health Promotion Survey, 1990, can be used in the collection of information for your research project.

The Statistics Canada copyright division encourages you to either use the surveys in their entirety or in part, and the questions contained in the surveys can also be revised to suit your needs. This generally applies to all the surveys that Statistics Canada Produces. I would also like to wish you and your colleagues success with the project.

Sincerely,

Patric Blouin
Data Dissemination Officer

Appendix E**Human Investigations Committee Approval**



Memorial

University of Newfoundland

Human Investigation Committee
Office of Research and Graduate Studies (Medicine)
Faculty of Medicine, The Health Sciences Centre

June 1, 1995

Reference #1149

Dr. L. Gien
School of Nursing

Dear Dr. Gien:

This will acknowledge receipt of your revised Respondent Release Form for the research study entitled "Economic Uncertainty, Health, and Sustainability in Coastal Communities in Newfoundland".

I have reviewed the revised form and find it to be satisfactory. We will keep a copy on file.

Sincerely yours,

~~H.B. Younghusband, Ph.D.~~
~~Chairman~~
~~Human Investigation Committee~~

HBV/jglo

cc Dr. K.M.W. Keough, Vice-President (Research)

Appendix F
Consent Form

THE HEALTH SURVEY: RESPONDENT RELEASE FORM

Please read the following carefully before deciding whether or not to proceed. This survey is part of a research program at Memorial University and is funded by Canada's three academic research councils. We are doing this survey to find out how people have been coping with the recent economic changes in the region, whether they have any effect on your health and your community. We would like to ask you some questions on these topics, which should take about one hour.

Everyone knows that many studies have been done, but we think this one is different and necessary. For the first time, we are bringing together people who study many different aspects of social life and the physical environment to get a full picture of the situation. And we are concerned with what local people think about the issues we study. So this survey is in fact part of a much larger project that aims to improve general knowledge of places such as this and to identify those areas where change would be consistent with the interests of local people. Results of the survey will be made available to the public of the area.

Your participation is voluntary and you may end the interview at any time. Moreover, you may refuse to answer any particular question if you please. All information you provide will be combined with information from about 900 other people in such a way that you cannot be identified. Your name will not appear on any page of the questionnaire. After the study has been completed, the questionnaire will be destroyed. The information you provide will be stored on computer and used in academic talks and publications, but it will be impossible to identify you or any other respondent. When the project is over, the data will be placed in the archives of the Centre for Newfoundland Studies at Memorial University. It is our hope that these assurances of privacy will allow you to provide honest answers that are as complete as possible. Please feel free to ask the interviewer any questions about the provision of privacy. If you have any concerns that cannot be answered by the interviewer, you may contact Ms. Marianne Lamb, Director of the School of Nursing, Memorial University, St. John's, A1C 5S7 (tel. 737-6972).

Thank you in advance for your assistance in this project.

Sincerely,

Rosemary E. Ommer
Project Manager

ECO-RESEARCH PROGRAM - HEALTH SECTION

Having read the above, I _____ agree to take part in the study.

Signature _____

Date _____

Interviewers Initials _____



